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ABSTRACT

To investigate the variables considered important to decisionmakers on an individual basis and within the natural context of the committee meeting, 110 members of 26 Committees on the Handicapped, and 102 members of ancillary professional groups responded to simulated case studies of hearing impaired children. Ss assigned the simulated cases in one of eight placement choices. Committee members also convened to place one randomly selected case. The instruments consisted of questionnaires requesting demographic information, 279 computer generated case studies of hearing impaired children, and a teacher report regarding one randomly selected case study. Data collection resulted in 2120 individual placements and 26 simulated debates regarding the randomly selected case. Analysis of the data showed that the Ss placed relatively different importance on the variables although several emerged as important to all groups. Analysis of committee placements indicated a tendency toward more restrictive placements than those made in the individual task. Anecdotal information indciated that the committees used the teacher report and/or parent preference as basis for the debates. Appendices include the study questionnaires, a group of 10 case studies, and the computer program used for the study. (CL)

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Final Project Report:

The Use of Criteria in Special Education Placement Decisions for Hearing Impaired Students

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ABSTRACT

THE USE OF CRITERIA IN DECISION MAKING REGARDING THE PLACEMENT OF HEARING IMPAIRED STUDENTS

Beatrice Sandra Spear

Research studies regarding placement team decisions have demonstrated that the teams do not often operate along the lines of rational decision making, but rather, rely on either expert opinion or preconceived notions of placement based on potentially biasing information. There have been some studies that used multiple regression analysis to determine the weights given to variables that might be used by decision makers in the placement process. To date, however, research has not been done for many populations of handicapped children and none have been done for hearing impaired children which used actual decision makers as subjects. The present study investigated the variables considered important to decision makers on an individual basis and within the natural context of the committee meeting.

The subjects were 110 members of twenty-six Committees on the Handicapped, and 102 members of

ancillary professional groups, which yielded a total of 212 subjects. All subjects individually placed ten simulated case studies of hearing impaired children in one of eight placement choices. The committee members also convened in their respective committees to place one randomly selected case.

The instruments consisted of questionnaires requesting demographic information, 279 computer generated case studies of hearing impaired children, and a teacher report regarding one randomly selected case study used in the second task. Data collection resulted in 2120 individual placements and 26 simulated debates regarding the randomly selected case. The data were analyzed using chi-square tests of significance and multiple regression analyses. The dependent variable was placement and the independent variables were sixteen characteristics of hearing impaired children considered important to placement decisions.

The results of the study showed that the various groups of subjects placed relatively different importance on the variables although several emerged as important to all groups. Analysis of committee placements indicated a tendency toward more restrictive placements.

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BSS

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Chapter I

INTRODUCTION

Statement of the Problem

While the integration of some hearing impaired children into the regular classroom has been a fact for many years, this phenomenon has recently been accelerated. In 1975, PL 94-142, The Education For All Handicapped Children Act, was passed which emphasized educational programming within the least restrictive alternative setting for all handicapped children. For hearing impaired children, the law encouraged their placement in programs within the local school districts or within intermediate school district settings.

Despite the fact that these programs have emphasized placement in the mainstream, there has been little systematic attempt to develop empirically criteria for the identification and selection of the children who would benefit most from a mainstreamed program. Equally as important is the fact that there have been few systematic attempts to study the decision making criteria and process of the individuals within the natural context of committees who are responsible for the educational placement of hearing impaired children. The bases upon which these children are placed, therefore, are unknown and may rest upon the use of limited information, stereotypic notions, or simply upon the availability of and the nature of the programs offered in various locations.

Bitter and Mears (1973) identified several questions regarding the educational integration of hearing impaired children. Included among these questions were: (a) "What are the significant characteristics of the hearing impaired children who are making a successful adjustment in regular classes?", (b) "Are there guidelines and diagnostic tools which may be used in initiating and maintaining the integration process?", and (c) "What evaluation procedures can help in determining entry points?" (Bitter and Mears, p. xiii)

Literature regarding criteria for and characteristics of children who are (or will be) successful in the mainstream fall into two groups, those derived from empirical study and those based on theory and clinical professional opinion. In terms of the latter, Northcott (1973) stated that a systems approach to the admission and maintenance of hearing impaired children was needed and she mentioned the following as possible intrinsic and extrinsic criteria for educational placement: (a) age at onset of loss, (b) age when hearing aid was fitted, (c) degree of loss in the speech range, (d) nature of preschool training, (e) professional guidance for parents, (f) presence or absence of other handicapping conditions, (g) size of school district and classes, (h) distance traveled, (i) availability of speech and academic tutoring, (j) attitude of teacher and class, (k) personality and social skills of the child and class participation, (l) clarity of speech, (m) speech reading ability and (n) language patterns of the child. Other professionals (Craig and Salem, 1975; Mecham and VanDyke, 1971; Bitter and Mears, 1973; Leckie, 1973; McGee, 1973) commented on the necessity for the development of criteria for admission into integrated programs and isolated factors reported by programs in operation. Those factors fell into four broad categories: (a) communication skills, (b) social development, (c) academic abilities and (d) parental and teacher support. While the positions surveyed above represent sound thinking and the judgment of knowledgeable professionals, they cannot be relied upon exclusively for making educational decisions since they are not based on empirical research; however, these theoretical and clinically oriented papers have laid the foundations and elucidated the possibilities for the second group of studies which have empirically investigated the criteria.

Two approaches have been used within these empirically based studies of placement criteria. In the first, sets of data concerning the characteristics of successfully mainstreamed students have been subjected to factor analysis to determine significance of clusters of descriptors and performance. Pflaster (1976) used this technique to derive thirteen uncorrelated factors common to her subjects; oblique analysis yielded eleven correlated factors. The factors in both analyses fell into three broad headings: (a) communicative, (b) linguistic, and (c) personality. The four major factors subsumed under these headings which accounted for sixty-five percent of the variance were: (a) the use of suprasegmentals, (b) the child's receptive and expressive language, and (c) the child's motivation; other minor significant factors were speechreading ability, interpersonal behavior, communicative attitude, personal adjustment, sibling constellation, auditory attitude and classroom communication. It is of interest that level of hearing loss did not appear as a significant factor in the analyses and this should be noted when determining placement of hearing impaired children. Johnson (1973) has discussed the harm that labeling a child "deaf" solely on the basis of pure tone hearing loss can do, and stressed the need for determining placement on the basis of the child's functioning level.

The second approach to establishing placement criteria empirically has been to derive decision "cut off points" with regard to placement or to compare the performance of integrated versus non-integrated subjects on diagnostic or achievement instruments selected a priori. Reich, Hambleton and Houldin (1977) employed this approach to compare subjects in integrated and non-integrated settings. Criteria were derived on the bases of measurement of (a) pure tone audiograms, (b) oral-aural functioning, (c) intelligence, (d) achievement, (e) self-concept, (f) speech intelligibility, and (f) social adjustment. Those criteria found to be significant in the integrated setting were: (a) oral functioning, (b) intelligence, and (c) parent involvement; hearing loss was not a significant criterion.

Rudy and Nace (1973) attempted to develop an instrument that could be used to predict success in integrated settings. They used measures of intelligence, achievement, social maturity and hearing loss; however, the authors stated that validation of the instrument through correlation with actual achievement was necessary.

Hecht (1977) attempted to determine which characteristics of hearing impaired students were most often used as criteria for deciding student placement and to determine the weights given to each major characteristic. Results obtained for her subjects indicated that oral-aural ability and hearing loss levels were given high weights while socio-economic level and motivation were given low weights by her subjects who were not actual decision makers.

While attempts have been made intuitively and empirically to determine criteria for placement, the procedures and criteria used for placement have not been investigated and no previous study has tried to verify what variables are used by knowledgeable (such as experts asked to provide testimony about a hearing impaired child's placement) and non-knowledgeable personnel (such as members of the placement team without training in the area of hearing impairment) during the placement meeting.

It has been stated that the committees responsible for placing handicapped children (variously named Committee on the Handicapped, M-team, Placement Team etc.), by virtue of their makeup, are not true decision making bodies in that they generally do not examine alternatives of placement. Rather, they bring to the decision making process preconceived placements based on the opinion of experts and/or the opinion of the committee chairperson (Mehan, 1981; Patton, 1976).

It is the intent of the present study to investigate the notion of placement criteria from the perspective of actual use. More specifically, the study was designed to identify the set of criteria used for placement of the hearing impaired child within various groups composing typical placement committees and multi-disciplinary teams. Additionally, the study was designed to determine if the committee decision making process reflects an examination of those criteria deemed most significant by these groups.

Chapter II

REVIEW OF THE LITERATURE

This review of related literature will concern itself with: federal law regarding the least restrictive alternative, the continuum of services currently in place for the hearing impaired, attribution theory and the consequences of labeling, decision making theory in general and decision making as it applies to the functioning of the multidisciplinary team. It was felt that all of these areas contribute to the understanding of the present study.

Federal Law - The Least Restrictive Alternative

It is the public policy of the United States government that the purpose of the public schools is to provide all children with the opportunity for a free, public and appropriate education (Abeson, Bolick, and Hass, 1977). The passage of PL 94-142, The Education For All Handicapped Children Act of 1975, was an outgrowth of the civil rights movement and the culmination of legislation and litigation designed to insure the rights of all children to receive a free, public education under the equal rights protection clause of the Fourteenth

Amendment to the Constitution.

Brown vs. The Board of Education (1954) was the basis for all right to education decisions; Pennsylvania Association For Retarded Citizens vs. Commonwealth (1971) and Mills vs. The Board of Education (1972) laid the groundwork for due process rights in education of the handicapped; Section 504 of the Vocational Rehabilitation Act (1973) guaranteed barrier free access for the handicapped to any program or activity receiving federal assistance; and the Education Amendments of 1974 (PL 93-380) guaranteed "...procedural safeguards in all decisions regarding identification, evaluation and educational placement of handicapped children." and increased the amount of state grant money for the handicapped (Abeson and Ballard, 1977, p. 87). PL 94-142 committed the federal government to financial contribution to the education of the handicapped and strengthened the educational rights achieved under PL 93-380, which it superseded (LaVor, 1977).

Federal mandates under PL 94-142 provide for: (a) the right to due process of law which includes informed consent, prior notice of meetings, etc., in the parents' native language, and the right of parents to a hearing if they disagree with the proceedings; (b) the least restrictive alternative which guarantees that the handicapped child shall, to the "maximum extent possible" (PL 94-142, Federal Register, 1975), be educated with their non-handicapped peers; (c) non-discriminatory testing which is neither racially nor culturally biased and administered in the child's native language or mode of communication; (d) confidentiality of information; (e) individualization of education through the development of an Individualized Education Program (IEP) for each handicapped student, developed with input from parents; and (f) provisions for compliance with federal law by the State Education Agency which must submit a plan to the federal government. Under the Act, failure to comply will result in the curtailment of federal funds.

The Act further provides for the establishment of multidisciplinary teams to aid in the placement of handicapped children. Due process, initially under PL 93-380 and later with PL 94-142, calls for procedures which require the schools to consider all program alternatives and to select the setting for each child that is least restrictive. This provision assumes that a continuum of services is available for each child which emphasizes "...special education and related services designed to meet their unique needs..." (PL 94-142, Federal Register, Sec. 3c, 1975).

New York State Education Law

Article 89 of the New York State Education Law states that each Board of Education must provide services for handicapped children residing in that district. The law also provides that the Board of Education for each local school district must appoint a Committee On The Handicapped to assist in the identification, evaluation and placement of such children. The membership of the committee must include a school psychologist, a teacher or administrator of special education, a parent of a handicapped child and a physician who does not have to be present at the placement meeting unless requested by the parent. Occasionally, a member of the general administrative staff is included on the committee. These groups of people would generally not be knowledgeable regarding all handicapping conditions; therefore, the committee is expected to call upon experts in the area of the handicap of the individual child to assist them in their decisions. In the area of hearing impairment there are four groups of professionals who might be called upon. They are: teachers of the deaf, speech clinicians, audiologists and supervisors of programs for the hearing impaired.

The Continuum of Services and Least Restrictive Environment

The concepts of least restrictive environment and mainstreaming are often interpreted as being synonymous; however, they should not be. Anderson, Martinez and Rich (1980) have stressed the need for definition of terms in order to resolve the confusion. Mainstreaming is presented as a descriptive concept of educating handicapped children with their normal peers whenever this is appropriate; least restrictive environment is defined as a program placement concept wherein handicapped children should be educated in environments as "normal" as possible, with mainstreaming, placement in regular classes, considered the most normal or least restrictive placement.

The notion of least restrictive alternatives assumes that a continuum of services exists, and PL 94-142 mandates that all of the alternatives be considered for each child. Deno (1970) and Dunn (1968) presented models of the sequential placement possibilities for handicapped children ranging from regular class placement to homebound instruction. Dunn's model included eleven placement possibilities, while Deno's Cascade included eight. Rucker and Gable (n.d.) adapted several models to develop a seven level continuum of services for use in the Rucker - Gable Educational Programming Scale, a scale designed to measure attitude and knowledge of appropriate placements for mentally retarded, learning disabled and emotionally handicapped children. The rationale behind the development of the scale was that more and more handicapped children are being moved toward the "mainstream" of education and that the attitudes and knowledge of regular education staff and administration of appropriate educational placements for handicapped children are important to the success of these children. The continuum of services for many hearing impaired children and youth in New York State falls within the following levels which are similar to those described by Deno, Dunn and Rucker and Gable:

1. Residential school for the deaf - The students live on campus and the school is for hearing impaired students exclusively.
2. Day school for the deaf - The students live at home and attend a school for hearing impaired students.
3. Full time special education classes - The student attends a full time program exclusively for the deaf

but within a school for normal hearing children.

4. Part time special education classes - The students attend a special class for the deaf for the majority of the day but attends the regular classroom for certain subjects.
5. Resource room - The students are enrolled in the regular classroom but attend a resource room for special instruction for part of the day.
6. Itinerant program - The students are enrolled in the regular classroom but receive special instruction from an itinerant teacher for part of the day.
7. Regular class - The students are enrolled in the regular class and may or may not receive special help as a related service from district personnel.

The position statement on least restrictive placements for deaf students, adopted by the Conference of Executives of American Schools for the Deaf (1977), noted that accurate understanding of the nature and severity of deafness was fundamental to the judgment of placement and that the least restrictive environment for hearing impaired children was only least restrictive if the alternatives for schooling enable the "...fulfillment of their academic and social potential and prepares them for a productive and well adjusted adulthood." Consonant with federal mandates, the least restrictive environment should be one that provides the full service components of: (a) individualized instructional planning; (b) appropriately certified teachers and qualified supervisors of instruction; (c) periodic audiological and psychological assessment and appropriate functional amplification; (d) satisfactory family contacts and (e) the counseling and services of personnel trained to work with deaf persons. In the idealized form, all of these factors are in place within each of the levels in the continuum which include direct services (levels 1-6). While level 7 is offered on the continuum, it is hypothesized that few severely to profoundly hearing impaired children can be integrated into the regular schools on that level.

Attribution Theory and the Consequences of Labeling

Attribution theory is a general term related to studies that account for how individuals perceive situations and make inferences about others and themselves (Harvey and Weary, 1981). Much of the impetus and rationale toward mainstreaming the handicapped (Dunn,1968; Deno, 1970; Johnson and Johnson, 1980) has been based on attributional research and theory regarding the effects of labeling, as has much of the criticism of placement of the hearing impaired individual on the basis of hearing loss alone (Johnson, 1973; Reich et al, 1977; Pflaster, 1976; Northcott, 1973; Connor and O'Connor, 1961; Northern and Downs, 1974). While levels of hearing loss must be taken into account in the placement process, (Advisory Committee on Education of the Deaf, 1971; Conference of Executives of American Schools for the Deaf, 1977), it must be remembered that hearing loss level is only one consideration within the psycho-educational assessment of hearing impaired students. The assessment of the hearing impaired child for the purposes of placement and of determining specific methodologies and teaching strategies was treated at length by Kretschmer and Quigley (1981) and will be used as one basis for determination of the variables to be used in the present study.

Another potentially biasing label with regard to hearing impaired children has to do with communication modality. Hecht (1977) suggested that there are two clusters of goals for the education of hearing impaired individuals. One cluster that she identified stressed the need for the development of verbal communication skills to increase the students' participation in the mainstream of society, while the other cluster emphasized the need for fluency in sign language and for associations within the deaf community in order to develop the students' identification and coping skills. While there has been a dichotomy in the philosophy of education of the deaf, stemming, historically, from the various influences of European educational methods (Brill, 1974), the integration, to the greatest extent possible, of hearing impaired children and youth has been a goal of all educators of the deaf and should be possible within the context of both oral education and "total communication". The second goal, that of identifying with deafness and the deaf community as well as being a part of the larger community of the non-handicapped, is also common to both groups of educators. Given the potentially biasing notions surrounding the use of alternative communication strategies, both speech reading and manual communication, (but particularly the latter), placement teams may avoid maximal integration despite the child's functional level.

Decision Making

The literature contains many references to decision making, decision making within organizations, small group decision making, mathematical decision making theory, and decision making within placement teams. This literature comes from a variety of fields, notably: sociology, psychology, anthropology, economics, political science, law and business administration. Understandably, therefore, there are varying definitions, theories, viewpoints and orientations.

Within organization theory, sociologists have been divided between the rational systems, or normative approach, and the natural systems approach. Strother (1963) discussed the difficulties inherent in defining a social science of organization and cited the works of Stogdill, Agyris, Barnard, and March and Simon as part of the "eclectic trend" to develop integrated theories of economic organizations (Strother, p. 16). These integrated theories have attempted to account for the behavior of individuals within organizations and several (Simon, 1957; Simon and March, 1958) have introduced the concepts of mathematical decision theory and the use of the model building capabilities of the computer. These theories, however, have generally been applied to industrial organizations and their applicability to social service organizations remains in question.

A further problem with organizational theory is that of the dichotomy of individual and group participation. Strauss (1963) stated that individual participation, based on delegation, involved very different processes than those involved in group participation with its emphasis on conformity and peer pressures. Placement teams are small decision making bodies within larger social service organizations; thus, the problems inherent in both can be seen in the functioning of the team.

Bales' model of interaction process analysis relates to role differentiation in problem solving groups. The problems inherent in these groups are: (a) adaptation to the environment; (b) organization and control of the task; (c) management of individual and interpersonal emotions, and (d) the development and maintenance of integration. Simon (1976) broadened the base of problems to include the total organization and related the question of efficiency and roles to organizational objectives and to the required acquiescence of subordinates to the overall organizational mission. He stated that decision making within organizations should be structured vertically to allow for coordination between operative and supervisory personnel and that this would lead to greater expertise in making decisions; however, he also stated that there could be a conflict between subject matter authority and hierarchical authority. Hierarchical authority might rest with the chairperson while subject matter authority might rest with another member of the group or an outsider brought in to give expert opinion.

Blau and Scott (1962) suggested three aspects of group participation which might serve to enhance group activity. These hypothesized dynamics were: (a) the sifting of suggestions leading to error correction mechanisms, (b) the social support of the group which facilitates thinking, and (c) competition which mobilizes energy; however, "Hierarchical differentiation of status, particularly when formally established, appears to curtail these three processes..." (Blau and Scott, p. 122). While status on the placement team, with the exception of the chairperson, is not formally established, research on team functioning seems to support the existence of an informal hierarchy with the chairperson and other professionals enjoying the higher status and the teacher and parent having lower status (Mehan, 1981; Yoshida et al., 1978; Patton, 1976).

At the opposite extreme of team functioning is the problem of "groupthink" (Janis, 1972, p. 9): "...a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members striving for unanimity override their motivation to realistically appraise alternative courses of action." The manifestations of groupthink are: (a) limited discussions in which the full range of alternatives is never examined; (b) selection of a course of action that is initially preferred by the majority and never subjected to critical examination; (c) failure to reconsider choices that are initially rejected; (d) inadequate search for expert advice; (e) selective bias in response to certain factual information and (f) failure to consider fully the drawbacks of the preferred choice and to develop a contingency plan.

"Ideal" rational decision making assumes that the following steps are taken: (a) defining the problem, (b) identifying alternatives, (c) quantifying alternatives through examination of short and long range objectives and rewards, (d) using decision aids such as decision trees, decision matrices, linear programming and models, (e) making the decision through the choice of the best alternative, and (f) implementing the decision (Hill, 1979). While in the idealized form, all relevant information should be collected, analyzed, considered and acted upon, the question still remains, that given that each individual has a finite ability to process information, what are the actual dynamics of the placement team's decisions and what information is actually used in the decision making process.

Decision Making and Functioning Within the Placement Team

Research into the functioning of the placement team (Mehan, 1981; Ysseldyke and Algozzine, 1980; Ysseldyke, Algozzine and Mitchell, 1982; Fenton, Yoshida, Maxwell and Kaufman, 1979) indicates that placement teams do not follow the above steps to decision although it is possible for them to do so. Fenton et al. (1979) have developed a scheme for special education placement teams built upon rational decision making models. The steps to decision in their scheme included: (a) perceiving the problem through the collection of data and the identification of service needs, (b) exploring the alternatives with special service needs as the primary criteria for selection of placement, and (c) selecting a solution by evaluating each alternative and determining the most reasonable.

Mehan (1981, p. 3) in his ethnographic/descriptive study of placement team meetings, identified the model of placement team decisions as being "recollective" - the decisions were presented rather than debated. He stated that the meetings that he observed did not have the features associated with decision making on either rational terms or social systems terms. He further stated that the manner and language of presentation of information was intended to obscure rather than to inform.

Three other general approaches to investigating the inner workings of the placement team can be identified. These are: (a) studies as to how information is presented within team meetings, (b) studies as to the extent of individual participation in and satisfaction with team meetings, and (c) studies into the factors which contribute to placement decisions.

Studies of the manner in which information is presented indicate that placements are made on the basis of referral information and that decision makers fail to reject stereotypes (Ysseldyke and Algozzine, 1980), that labeling results in more restrictive placements (Newman, 1980), that the presenting problem influences the kind of information examined (Goldstein et al., 1980) and that twice as much time is spent on presenting academic rather than behavioral information (Ysseldyke, Algozzine, Rostollan and Shinn, 1981).

Studies of participation and satisfaction have shown that: (a) some members of teams perceive themselves in passive roles and that teachers are the most disenfranchised from the process yet are still satisfied with the procedures (Yoshida et al., 1978); (b) that parents and lay persons are not included in discussions (Patton, 1976); (c) that there is little parental input, roles of members are not stated and there is little encouragement for participation of lay persons (Ysseldyke, Algozzine and Mitchell, 1982); and that, (d) when there is conflict, the psychologist or team leader resolves it (Hyman, 1973).

As for factors that contribute to placement decisions of various groups of professionals, Matuszek (1979) found that both psychologists and teachers relied on IQ, test achievement, class achievement and home related anxiety as their primary factors in making various placement decisions regarding non hearing impaired children. She found that socio-economic status was important for psychologists but not for teachers, whereas self concept was important to teachers and not psychologists. Johnson (1980) investigated placement decisions made by psychologists and found that complex combinations of IQ levels, emotional-social problems and IQ-achievement discrepancies did not yield the hypothesized placements for his subjects; however, simple combinations of factors where one was obviously causative did yield the hypothesized placement. Morrow, Powell and Ely (1976) found that psychologists' recommendations and social histories did not significantly contribute to placement team decisions whereas intelligence factors and educational functioning did. Holland (1980) in a study of urban, suburban, and rural teams, found that the same problems were operating in all three environments and that factors influencing decisions, other than those already discussed, were available resources, parental pressures and the geographical proximity of special services.

Ysseldyke, Algozzine and Mitchell (1982) have suggested that structuring the planning team meeting to include time for specific components of the decision making process mentioned in the model of Fenton et al. (1979, p. 312) would be an important step in improving the process. They further stated that the meetings should be modelled to follow the factors identified by Fenton et al. as facilitating effective decisions. They were: (a) consensus decision making, (b) clarity of goals, (c) structured separation of activities and, (d) nonspecialized participation by team members during each stage of decision making.

Decision Making Regarding Hearing Impaired Individuals

As stated previously there have been several empirical studies related to criteria for the integration of hearing impaired students but only one (Hecht, 1977) which attempted to examine actual decision making criteria of various groups. The decision makers in the Hecht study were administrators of hearing impaired programs, teachers of the hearing impaired, normally hearing parents of hearing impaired students, hearing impaired parents of hearing impaired students and hearing impaired college students. Results were analyzed for simulated placement tasks given on two different occasions. The subjects in her study gave the most weight to factors of hearing loss and oral-aural ability; most of her subjects placed students with moderate to profound losses in special class settings and reserved resource rooms and itinerant services for students with mild hearing loss. While the results of the Hecht study were informative regarding the attitudes toward placement of the hearing impaired student of her subjects, her subjects were not those ordinarily associated with the decision making process in the local school district. Two of her groups of subjects, parents of hearing impaired children and teachers of the hearing impaired, would attend the placement meeting; but, the question that her study did not address was, how would their opinions differ from the actual decision makers opinions and how much weight would their opinions carry.

The statement on least restrictive environment by the Conference of Executives of American Schools for the Deaf made the point that "Educational planning cannot be viewed as the prerogative strictly of placement officials....", and that the wishes and feelings of the parents and students must be accounted for within the placement procedure. The mandates of PL 94-142 also stipulate that parents and students are to be a part of the process. Research into planning team procedures for other disability areas, particularly learning disabilities, (Mehan, 1981; Ysseldyke et al, 1982) has shown that this is not often the case; however, research regarding the hearing impaired student (Pflaster, 1976) has shown that parental expectation and preference has been a significant factor for the successful integration of the student.

There is a need for further research regarding the decision making procedures for placing the hearing impaired student. Mandated members of the placement teams as well as other groups of professionals who might be a part of the decision making process for the hearing impaired student have not been a part of any studies to date; several significant variables have not been included in studies to date and the procedures of the committee as a whole have not been studied.

Statement of Hypotheses and Research Questions

In response to the intent of PL 94-142, The Education For All Handicapped Children Act of 1975, more and more hearing impaired children are being placed in less restrictive settings. It is the intent of the present study to determine if the criteria currently being used to place these children is consistent with the criteria recommended by empirical studies, state mandates, and professional opinion; to determine if Committee on the Handicapped members and experts in the area of hearing impairment use different criteria; to determine if the group process resulted in less or more restrictive placements and to determine whether additional expert testimony influences decisions regarding the placement of hearing impaired students.

Based upon this review of the literature and the statement of the problem, it is hypothesized that there will be differences in criteria used for placement decisions among the groups and that there is a small set of variables upon which various groups of individuals will base their decisions.

The research questions generated from these hypotheses are:

1. What are the significant criteria for placement used by the aggregate of professionals who typically have direct contact with hearing impaired students and/or make placement decisions with regard to hearing impaired students?
2. Are there differences or similarities in the sets of criteria for placement used by the eight different knowledgeable and "non-knowledgeable"(with respect to hearing impairment) groups in the study?
3. Are there differences in the order of priority placed upon those criteria shared by the groups?
4. Are there differences between the placement decisions made in committee and those made individually?
5. If there are differences in the decisions made in committee from the decisions made individually, are the differences associated with the committee process and the inclusion of referral information in the form of an expert's report or by other unknown variables?

Chapter III

METHOD

Setting

The present study was conducted in the Northeast, primarily within New York State and the greater New York City metropolitan area. It included: (a) a representative sample of Committees on the Handicapped from small cities, suburban locales and rural locales in New York State and (b) a representative sample of professionals who work primarily in the area of hearing impairment from New York City, New York State, Connecticut and New Jersey. While several subjects within the professional groups who work primarily in the area of hearing impairment were from organizations within New York City, Committees on the Handicapped from New York City were not included in the present study because the internal framework of committees and subcommittees was different than those found in all other demographic settings used in the study.

The local school districts in the sample ranged from small rural districts with total school populations below 500 to larger city school districts with populations above 10,000 (See Table I for school district demographics).

Table 1

Demographic Data of Districts[a]

Variable	Response Range	N[b]	*M*
# of Students in District	301 - 10,500	70,729	2,726.9
# of Handicapped Students	16 - 624	6,076	234.7
# of Hearing Impaired Students	0 - 25	118	4.5

Variable	N	%
Percent of Incidence of Handicapped students	6,076	8.6
Percent of Incidence of Hearing Impaired		
Within Handicapped	118	2.0
Within Total	118	.2

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[a] 26 districts surveyed

[b] Aggregate number of students within the district surveyed.

The percent of incidence of handicapped students in the sample districts was 8.6% and the percent of hearing impaired students was .2% (as percent of total enrollment ages 5 to 21). Nationwide percentages are comparable: (a) percent of incidence of handicapped students 3 to 21 years old within the total school enrollment in the United States in 1982-83, 10.73%; (b) percent of incidence of hearing impaired students, .18% (National Center for Education Statistics, Department of Education, 1985).

Subjects/Sample

In response to the passage of The Education for All Handicapped Children Act, 1975, all states have developed planning teams whose purpose is the placement of handicapped children. As noted in Chapter II, the planning team in New York State is called the Committee on the Handicapped and four members are required by state statute: a teacher or administrator of special education, a school psychologist, a parent of a handicapped child, and a school physician. At the present time, the school physician need not attend the meetings unless specifically requested by the parent of the child under discussion. In the present study, physicians were not included in the sample of Committee on the Handicapped members.

Several states in the Northeast were surveyed to determine if the composition of the planning team was comparable from state to state and compatible with federal mandate, (PL 94-142). The Education for All Handicapped Children Act mandates members that must be present at an IEP (Individual Education Plan) meeting but does not mandate members of the placement team. The people who must be present at the IEP meeting are: (a) a representative of the public agency, other than the child's teacher, who is qualified to provide or supervise the provision of special education, (b) the child's teacher, (c) one or both parents, (d) the child if appropriate and (e) other individuals at the discretion of the parent or agency (Sec. 612; 121 a 344).

While considerable leeway is given to persons invited to attend the placement meetings, the planning team members that clearly overlap in the states surveyed in the Northeast (Vermont, Pennsylvania, New Jersey and Connecticut) are: (a) providers of special education services, (b) administrators, either general or special, and (c) school psychologists. The parent as a mandated member of the committee is unique to New York State and a social worker is included as a mandated member of the planning team in Pennsylvania and New Jersey (personal communication with the Directors of the State Departments of Special Education).

The subjects were divided into two general classification types, or groups: (a) placement team members (members of a Committee on the Handicapped) who were assumed to be less knowledgeable about hearing impairment than professionals with direct contact with hearing impaired children and (b) ancillary professionals serving hearing impaired students who were assumed to be knowledgeable about the effects of a hearing impairment. Each classification type or group was subdivided as to their professional affiliation. The placement team members were: (a) administrators, generally the Chairperson of the team; (b) psychologists; (c) special education teachers, and (d) parents of handicapped children. The groups of ancillary professionals serving the hearing impaired students were: (a) supervisors/administrators of special education programs, generally for the hearing impaired; (b) teachers of the deaf; (c) audiologists, and (d) speech pathologists.

A total of 212 individuals served as subjects, 110 Committee on the Handicapped members and 102 ancillary professionals. The 110 Committee on the Handicapped members were drawn from 26 local school districts in

Southern and Northern Westchester, Putnam, Dutchess and Rockland Counties. Responses from 26 chairpersons, 28 psychologists, 29 special education teachers and 27 parents of handicapped children were obtained from this pool of committee members. The ancillary professionals were drawn from fourteen programs (both public and private) from the greater Metropolitan area with services for hearing impaired children. These organizations included Boards of Cooperative Educational Services, schools for the hearing impaired, University and private clinics with speech and/or audiological services and several rehabilitation centers. A total of 102 individuals from these programs completed questionnaires yielding responses from 26 administrators/supervisors of special education programs, 29 teachers of the deaf, 24 audiologists and 23 speech therapists. The lesser number of audiologists and speech therapists was attributable to the ratio of staffing within the programs.

Instrumentation

Questionnaires. Four different questionnaires were developed to collect demographic information from the following groups: (a) committee members, (b) professional group members, (c) committee chairpersons, and (d) supervisors or directors of special education programs. The information collected included personal data such as, (a) educational background, (b) position, (c) length of time in the field, (d) general knowledge and courses taken regarding hearing impairment and special education, (d) contact with hearing impaired students. The information collected also included the range of options available to students within the programs and the numbers of students in the programs (see Appendix A).

Case studies. A series of simulated case studies were generated and given to the subjects which required them to make placement decisions regarding hearing impaired students of varying characteristics.

The manner in which these case studies were generated took into account selected characteristics of hearing impaired students which potentially might influence decision makers judgements regarding placement. These characteristics were obtained from three general sources: (a) empirical studies, (b) state guidelines, and (c) the considered professional opinion. Specific characteristics included within the case studies were selected after a careful review of this literature by the investigator and a second judge with extensive background in the psycho-educational assessment of hearing impaired children. Fourteen variables were selected in this manner and they were: (a) hearing loss, (b) improvement of hearing with hearing aid use, (c) intelligence, (d) self-concept, (e) academic achievement, (f) motivation, (g) use of the auditory modality, (h) linguistic functioning, (i) social adjustment, (j) parental expectation, (k) use of sign language, (l) speech intelligibility, (m) the presence of another handicapping condition and (n) the use of the visual modality for speech reading. Two variables were added at the request of the United States Office of Education, Special Education Programs; they were: (o) parent preference as to placement and (p) distance of the placement from the local school district. Sixteen variables, therefore, served as the bases for the computer generated case studies.

The factors of age, sex and socio-economic status were not varied but rather were held constant across all simulated case studies. Three levels were assigned to each variable and descriptive sentences were written for each level of each variable. (See Figure 1 for variables, levels assigned to them and sources; Figure 2 for descriptive sentences.)

Since generating case studies for all combinations of every level of the variables would have resulted in an unworkable number of cases, variables were paired (see Figure 3) and the case studies were generated so that all combinations of levels were assigned to each pair of variables and that one level of each variable was included in every case simulation (see Appendix B for the computer program). Using this procedure 405 case studies were generated. Each case was then assigned a name and printed on a single page with a checklist of eight placement choices. These eight placement choices reflected the following continuum of placement alternatives:

1. Regular classroom placement with no basic change in teaching procedures.
2. Consultation services: regular classroom placement with specialists available for consultation with teachers or parents when needed. Speech therapy and tutoring available from local school district personnel.
3. Consultation and direct services: regular classroom placement with itinerant teacher of the hearing impaired to consult with teachers and to provide direct services to students for one-half to two hours as specified in the IEP.
4. Resource room: regular classroom placement with

resource room services (teacher of the hearing impaired providing supplemental instruction) for up to 49% of the school day.

5. Resource room placement as above with interpreter (oral or manual) attending regular classes with the student.
6. Part time special class: placement in a special class for the hearing impaired for the majority of the school day but student attends regular classes for certain subjects.
7. Full time special class: placement in a special class for the hearing impaired on a full time basis but within public education.
8. Placement in a day school or residential school for the deaf.

Figure 1

Characteristics used as Variables in the study -
the levels and the sources

Variable	level	Source
1. Hearing loss-unaided	moderate (50-70 db) severe (71-90 db) Profound (90 db + above)	all empirical studies
2. Hearing loss-aided	approaches normal some improvement no improvement	all empirical studies
3. IQ	Above average (110 & up) Average (95-109) below average (80-94)	Empirical studies Rudy & Nace Important to psychologists
4. Self-concept	good weak poor	Empirical studies
5. Academic functioning	average (on grade level) below average (1-1½ yrs. below) low (more than 2 yrs.)	SEA Criteria Empirical studies Important to teachers
6. Motivation	good adequate poor	Pflaster, Hecht studies
7. Aural functioning	good aural skills fair aural skills poor aural skills	All empirical studies
8. Linguistic functioning	good fair poor	Pflaster study
9. Social adjustment	good fair poor	SEA Criteria All empirical studies

Figure 1 (con.)

Variable	level	Source
10. Parent Expectation	high average low	Pflaster, Reich Studies Important to present study
11. Parent Preference	mainstreamed least restrictive self-contained	USOE criteria Important to present study
12. Manual ability	unfamiliar does not use uses	Important to present study & educators of the hearing impaired students
13. Speech Intelligibility	good fair poor	Pflaster study Important to speech therapists.
14. Other handicap	absent present-mild present-severe	SEA criteria
15. Distance	6-7 near, 8 far all near 6-7 far, 8 near	USOE criteria Important to present study
16. Speech Reading	good fair poor	Important to present study & educators of hearing impaired students

Figure 2

Descriptive Sentences

A. Hearing loss- unaided

1. The student has a moderate hearing loss of 55 dB PTA.
2. The student has a severe hearing loss of 83 dB PTA.
3. The student has a profound hearing loss of 105 dB PTA.

B. Hearing loss - aided

1. His aided hearing scores approach normalcy.
2. Aided scores show some improvement of hearing as a result of hearing aid use.
3. Aided scores do not show improvement of hearing with hearing aid use.

C. IQ

1. IQ is between 115 and 125
2. IQ is between 95 and 105
3. IQ is between 75 and 85

D. Self concept

1. Self concept is good in that he shows a strong belief in his abilities.
2. Self concept is fair in that he shows some doubts and insecurities about his abilities.
3. Self concept is poor in that he projects a sense of failure and futility.

E. Academic functioning

1. Academic functioning is on grade level.
2. Academic functioning is one to one and a half years below grade level.
3. Academic functioning is low, more than two years below grade level.

F. Motivation

1. Motivation is very good, student works consistently at all tasks.
2. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated.
3. Motivation is very poor, student is not interested in academics and his interest is extremely hard to

stimulate.

G. Aural functioning

1. He is considered to have good aural skills in that he seems to be auditorily oriented and has good discrimination abilities.
2. He is considered to have fair aural skills; although he is auditorily oriented, he shows some difficulty in following conversations via the auditory pathway because of inadequate discrimination abilities.
3. He is considered to have poor aural skills as he did not seem to depend upon his hearing and he understood little except for a few isolated words through his hearing.

H. Linguistic functioning

1. His linguistic functioning in terms of syntactic complexity, word knowledge and use of language is quite good and approximates that of his normally hearing peers.
2. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited.

3. His linguistic functioning is poor in that he does not typically generate complete sentences, his vocabulary is limited, and a number of grammatical omissions and errors are noted.

I. Social adjustment

1. His social adjustment is good; he relates well to both peers and the adults in his environment.
2. His social adjustment is fair in that relationships with both his peers and adults in the environment depend on the situations in which he finds himself each day.
3. His social adjustment is poor in that he cannot relate to the adults and peers in his environment despite the situation.

J. Parental expectation

1. Parental expectation is extremely high. His parents expect superior work and effort from him.

2. Parental expectation is average. His parents expect him to do as well as possible in school but do not push him to overachieve.

3. Parental expectation is low. His parents evidence a lack of faith in his abilities and do not show interest in his work at home.

K. Parental preference

1. His parents prefer him in a mainstreamed setting.
2. His parents want him in a setting that is as least restrictive as possible for him.
3. His parents prefer him in a self contained class with other hearing impaired children.

L. Manual communication ability

1. He is unfamiliar with sign language or finger spelling.
2. Although he has been exposed to sign language and fingerspelling, he is not comfortable with their use.
3. He has been exposed to sign language and fingerspelling and is comfortable with their use.

M. Speech Intelligibility

1. His speech is readily intelligible to all listeners.
2. His speech is moderately intelligible and can be understood by most listeners with concentration.
3. His speech intelligibility is poor but can be understood by the sophisticated listener in the context of the situation.

N. Other handicapping conditions

1. He possesses a mild motor/mobility problem in addition to the hearing impairment.
2. A severe motor/mobility problem is also present.
3. There are no other physical problems present.

O. Distance from placement

1. All regular school and resource placements (placement options 1-5) are within the local school district. The day/ residential private placement is not within easy commuting distance, special classes are within commuting distance.
2. All regular school and resource placements (placement

options 1-5) are within the local school district. Both the special classes and the day/residential private placement are within commuting distance.

3. All regular school and resource placements (placement options 1-5) are within the local school district. Special classes are not within easy commuting distance, (approximately 50 miles away), day/residential private school is within easy commuting distance.

P. Speech reading ability

1. He is a good speech reader and can follow normal face to face conversation fairly well.
2. He has some difficulty following conversations via speech reading.
3. He is a poor speech reader ; visual cues do not help him to follow any conversations.

Figure 3

Variables Paired

AC	BD	EG	FH	IK	JL	MO	NP
BE	DF	HJ	IL	KN	MP	AG	CO
AE	CF	DG	HK	JM	LO	IP	BN
AD	CE	GI	HL	KM	BO	FP	JN
BF	CG	EH	IM	LN	AJ	DP	KO
AF	BG	DH	IN	JO	LP	EK	CM
CH	FI	GO	KP	BJ	AN	EL	DM
BH	EI	GM	AK	CN	DO	FL	JP
AH	DL	GJ	FK	EN	BM	CP	IO
AI	BP	DN	EM	GL	FJ	CK	HO
CI	EO	GK	HP	AM	BL	FN	DJ
BI	CJ	DK	AL	HM	GN	FO	EP
DI	EJ	BK	CL	FM	HN	AO	GP
AB	CD	EF	GH	IJ	KL	MN	OP
BC	DE	FG	HI	JK	LM	NO	AP

Each case study was reviewed by a team of raters, familiar with hearing impaired individuals, and those studies with combinations of variables that were deemed impossible to exist in the same child were eliminated. The raters also commented on the clarity and meaningfulness of the combinations. In general, they felt that, while an actual case study would include more in-depth information, each case contained sufficient information to allow a placement recommendation. Computer generation of the case studies resulted in several duplications of combinations and these were also eliminated. A total of 279 case studies remained after the above mentioned process was completed.

A glossary of terms was developed as was a set of instructions, which explained the nature of the task and what was to be done (see Appendix A for examples of the case studies, instructions, and glossary).

Teacher report. A packet of information was also developed to be used in the second part of the study involving group decision making processes on the part of the Committee on the Handicapped placement team. This included: (a) set of instructions similar to that mentioned above under Case Studies, (b) a randomly selected case from the previously generated 279 case studies (case study # 104, Giles Brent), and (c) a simulated report from the student's previous teacher with a recommendation for placement (See Appendix A for the randomly selected case study and teacher report).

Data Collection Procedures

Initial contact was made with Superintendents of fifty districts in the geographical area previously described. Letters (see Appendix C) were sent to the superintendents describing the purpose of the study and the benefit that it would be to the district to participate. Thirty Superintendents agreed to allow their staff to be a part of the study and designated the Committee on the Handicapped Chairperson as the contact person for the study. The investigator then contacted the committee chairpersons, familiarized them with the nature of the study and sent them a letter explaining their role (see Appendix C).

The 279 case studies used in the first part of the study were reproduced and divided into groups of ten in such a way that every case study was distributed to a representative sample of each group. The ten case studies, the appropriate questionnaire, the glossary and a page of instructions describing the placement alternatives, the placement task and the rationale of the study were then distributed to the individual subjects. Within the page of instructions, each subject was requested to complete the questionnaire, to review the individual case studies, and to make a placement decision with regard to the eight alternative settings.

After eight weeks if an individual had not returned his or her materials, a reminder letter was sent. Follow up phone calls were made two weeks later, if there was still no response.

These procedures applied to all of the subjects whether they were a member of a Committee of Handicapped placement team or whether they were ancillary professionals in the field of hearing impairment. After each individual within a Committee on the Handicapped placement team, however, completed his or her individual placements, the committee chairperson of that team was sent the second packet of information and stimuli which consisted of: (a) a set of instructions, (b) the randomly selected case from the previously generated 279 case studies (case study # 104, Giles Brent), and (c) a simulated report from the student's previous teacher with a recommendation for placement. The chairperson of the Committee on the Handicapped placement team was then asked to include the randomly selected case study on the agenda of their next meeting.

As a part of the overall instructions, the committee was asked to function as it normally did in deciding the placement for the randomly selected case and it was asked to view the teacher's report as one additional piece of information in the decision making process. After the debate on the final disposition of case #104, the committee decision was returned to the investigator in a separate envelope previously provided.

Data Analysis Procedures

Data were analyzed using cross tabulation, Chi-square tests of significance and multiple regression techniques. Cross tabulation was used to investigate differences between the groups for demographic variables as well as to investigate overall distribution of placement. The frequency distribution of placement for the 2120 placements was compared with frequency distributions of each group and of groups 1-4 (COH members) and groups 5-8 (professional groups). The data were analyzed for significance using chi-squares.

Multiple regression analysis was done using the SPSS program on the DEC-20 at Teachers College, Columbia

University. Simultaneous regression was used to analyze the overall sample for those criteria given the most weight in the placement decisions. Stepwise regression allowing the computer to choose the order of variables entered was also done for the overall groups. Stepwise regressions were then done for each group.

The dependent variable in the multiple regression was special education placement and the independent variables were the sixteen criteria built into each case study. While data were analyzed with rating group as a predictor and then without, it was felt that the data without the rating groups as predictor were clearer and, therefore, regression data with rating group as predictor were not reported. The independent variables were treated as ordered categorical variables because the levels were shown to have linear relationships during the analysis techniques.

Chapter IV

RESULTS

The purpose of this study was to investigate the use that was made of 16 criteria thought to be important in making educational placement decisions regarding hearing impaired children by various groups of knowledgeable and less knowledgeable (with regard to the impact of hearing impairment) professionals. Comparisons were made of the significance placed on these criteria by eight groups of subjects who would ordinarily be involved in the decision making process, four constituent subgroups of Committee on the Handicapped placement team members (less knowledgeable) and four groups of ancillary professionals who might be called upon to give input to the deliberations of the committee (knowledgeable).

The study also investigated placements made in the natural setting of a Committee on the Handicapped meeting. Placements, done individually for one randomly selected case study by the committee groups and the expert groups, were compared to the placements of the same case made by 26 Committees on the Handicapped.

Although thirty Committees on the Handicapped agreed to participate in the study, four had to be dropped due to insufficient response. The following results reflect this condition.

Demographic Data

Demographic data were collected for the eight groups which yielded information on the following characteristics of the subjects: (a) past direct service to the handicapped, (b) present direct service to the handicapped, (c) formal courses in special education, (d) formal courses in hearing impairment, (e) contact with hearing impaired students, and (f) years of experience in their present position (see Table 2).

Most of the members of all groups except the parent and chairperson group had either past or present experience providing direct services to handicapped children and courses in special education. It should be pointed out that the educational background of the chairpersons of the committees, the parents and the supervisors was heterogeneous (see Table 2a). Within the Chairperson group, 33% had never had course work in special education and 37% had no past direct service to handicapped children. Within the parent group, 63% had never had course work in special education and 88.5% had no past or present service to handicapped children. As anticipated, many more members within the four groups designated knowledgeable (5-8) had courses in hearing impairment than did the (less knowledgeable) committee member groups (1-4). All groups, however, reported more contact with hearing impaired children than courses taken in the area.

Frequency Distributions for Individual Placements

The distribution of placement within the sample (see Figure 4) followed an approximately normal curve. Placement five, which was added in an attempt to circumvent the oral/manual philosophical debate and to give respondents an opportunity to choose a setting with the additional support services of an interpreter, either oral or manual, was chosen 13.2% of the time. Placement five was, therefore, chosen less frequently in the overall sample than placement four, the alternative resource room choice and less frequently than placement six, the part time special class.

Table 2

Demographic Data of Total Sample

Variable	Yes N/%	No N/%
Past Service to Handicapped	161/75.9	51/24.1
Present Service to Handicapped	119/56.1	93/43.9
Courses in Special Education	141/66.5	71/33.5
Courses in Hearing Impairment	111/52.4	101/47.6
Contact with Hearing Impaired	167/78.8	45/21.2

Note. Total n = 212

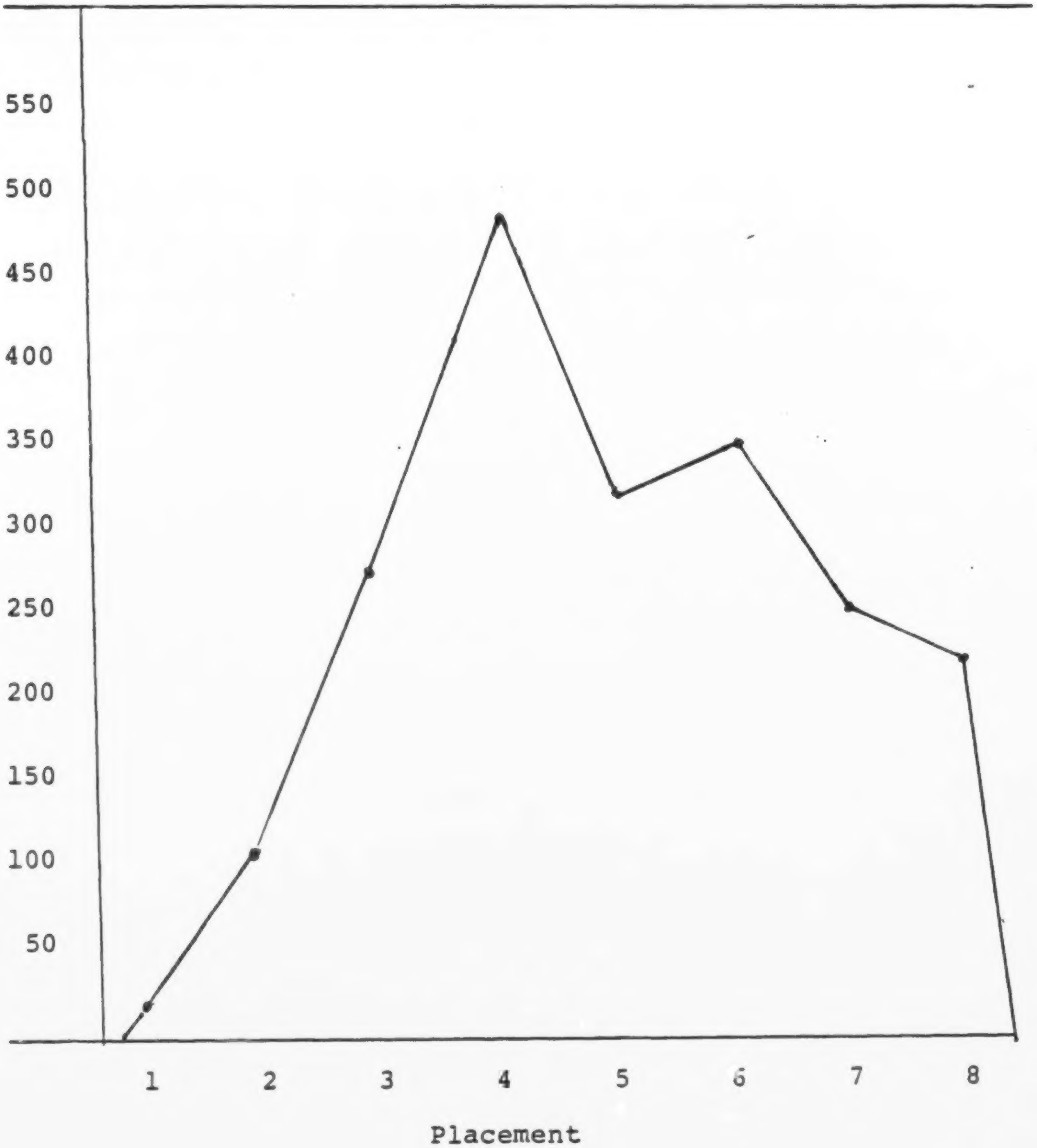
Table 3

Educational Background of Groups 1, 4 & 5

Variable	Spec. Ed. N/%	Gen. Ed. N/%	Psych. N/%
Educational Background of Chairpersons	9/35%	9/35%	8/30%
Variable	H.School N/%	College N/%	Grad. N/%
Educational Background of Parents	10/38%	14/54%	2/8%
Variable	Sp. Ed. Teaching N/%	Clinical N/%	Sp. Ed. Amin. N/%
Educational Background of Supervisors	14/54%	5/19%	7/27%

Figure 4

Distribution of Placement Within Sample



Cross tabulation of each variable with the eight rating groups showed that there were no significant differences in the three levels of any of the variables assigned within the groups; therefore, each subject group did receive a representative sample of all levels of all variables (see Appendix D).

In the cross tabulations of placement and the levels of the variables summed across all raters, there were differences. Chi-square analysis showed significant differences, $p < .01$, such that the more severe the level of the variable, the more restrictive the placements for all variables except parent expectation.

In the cross tabulation of demographic variables and placements summed across all raters, there were also differences. Chi-square analyses showed significant differences, $p < .01$, for the following variables: past direct service to the handicapped, formal courses in hearing impairment and contact with hearing impaired students. In general, respondents in the overall sample who answered "yes" to these variables were more likely to place children in the part time special class than the full time special class, a move on the continuum of services toward the less restrictive placements.

When each rater group was considered separately, with regard to this issue, significant differences were shown among the members of groups one and five. Committee chairpersons (group 1) who had had past direct service to handicapped children were more likely to place in the part time special class and less likely to place in the regular class with itinerant services than were chairpersons without past direct service (Chi-square = 14.04, $p < .05$). Similarly, supervisors (group 5) who were providing direct service to handicapped children were more likely to place in the full time special class and in day schools for the hearing impaired than were their counterparts who were not providing direct service (Chi-square = 17.05, $p < .01$). In general, in these two groups, more knowledge about the hearing impaired area resulted in a move along the continuum toward more restrictive placements, contrary to the results for the overall sample.

The distribution of placement for the collapsed groups of committee members and ancillary (expert) personnel also showed differences, with committee members choosing placement four, the resource room, 25% of the time, more frequently than the ancillary (expert) group who chose it 20% of the time and the ancillary expert group choosing placement six, the part time special class, 18% of the time, slightly more frequently than the committee members who chose it 15% of the time. While the results of sampling by group seemed to reverse the tendency shown by the overall sample, the results in general were inconclusive regarding the influence of past experience with the handicapped on placement (see Table 2).

Table 4

Crosstabulation of Placement by

Rating Groups 1 & 2

Variable	Placement							
	1	2	3	4	5	6	7	8
Group 1	10	58	171	279	151	167	193	71
COH Members	.9%	5%	15%	25%	13%	15%	18%	6%
Group 2	2	45	156	208	128	196	180	105
Experts	.2%	4%	15%	20%	12.5%	18%	18%	10%

Note. Chi-square = 26.27 d.f. = 7

Significance - .0005

Regression Analyses for Individual Placements

Zero order correlations showed correlations between placement and all variables in the equation and showed low correlation between the sixteen variables indicating that the variables of student characteristics were independent of each other (see Appendix D).

The first regression analysis was a simultaneous regression in which the sixteen criterion variables were forced into the equation at the same time (see Table 5). The beta weights of the sixteen variables were compared with each other to ascertain the relative importance of the variables in predicting placement. The following order of importance was obtained from this full model: academic functioning, IQ, aural functioning, speech reading ability, linguistic functioning, motivation, aided hearing loss, parent preference, social development, unaided hearing scores, speech intelligibility, other handicapping condition, self concept, parent expectation, distance of placement and manual ability. The last four variables were not significant beyond the .01 level. The RSQ (multiple R squared) for this equation was .3483, indicating that 35% of the variability of placement was accounted for when all of the variables were in the equation. Academic functioning was by far the most important variable in the prediction equation with a beta weight of .3177.

Table 5

Summary of Simultaneous Regression

of Placement on Placement Criteria

Variable	$\underline{R}^1$	$\underline{R}^2$	$\underline{R}^2$ Change	$\underline{\beta}$	$\underline{r}$
Speechrd				.1717	.172
Motiv				.1513	.1[illegible]5
Distance				-.0728	-.070
IQ				.2302	.233
Social				.1169	.147
Othhand				.0480	.041
Aural				.2217	.202
Hearaid				.1471	.183
Linguist				.1675	.227
Selfcon				.0458	.097
Speechin				.0883	.112
Prntpref				.1447	.208
Hearun				.1128	.162
Manual				-.0051	-.055
Academic				.3177	.412
Prntexp	.5902	.3483	.3483	.0170	.208

Note. All variables in the equation = 16

A stepwise multiple regression for the entire sample was done to allow comparisons with stepwise regression by rating groups. These comparisons were most appropriate to the purposes of the present study. Results showed twelve variables in the equation (see Table 6). The variables entered were identical to those that were significant in the simultaneous model; however, the order of significance changed. Parent preference (from beta weight = .1447 to .1835) and speech intelligibility (from beta weight = .0883 to .1316) received relatively more weight in the second equation and aural functioning relatively less weight (from beta weight = .2217 to .0936). The order of significance follows: academic functioning, IQ, unaided hearing loss, linguistic functioning, social development, parent preference, speech reading, speech intelligibility, motivation, aural functioning, aided hearing scores, and other handicapping condition. The twelve variables in the equation accounted for 35% of the variability of placement.

Table 6

Summary of Stepwise Regression of Placement on Placement Criteria

Variable	R	R^2	R^2 Change	β	r
Academic	.4125	.1701	.1701	.4125	.412
IQ	.4530	.2052	.0351	.1884	.233
Prntpref	.4881	.2382	.033	.1835	.208
Hearun	.5055	.2556	.0174	.1333	.162
Social	.5235	.2741	.0185	.1365	.147
Linguist	.5395	.2910	.0169	.1342	.227
Speechin	.5549	.3079	.0169	.1316	.112
Motiv	.5657	.3200	.0121	.1120	.155
Speechrd	.5721	.3273	.0073	.0888	.172
Aural	.5788	.3350	.0077	.0936	.202
Hearaid	.5846	.3418	.0068	.0857	.183
Othhand	.5878	.3455	.0037	.0617	.041

Note. Significant variables in the equation = 12

Variables not in the equation = 4

Regression Equations By Group

The results of stepwise multiple regressions done for each rating group (see Tables 7 - 14) showed that fewer variables entered the rating group equations than entered the simultaneous and stepwise equations for the entire sample.

Group 1 - COH chairperson. The significant variables for Group 1 (Table 7), in order, were: (a) academic functioning, (b) IQ, (c) parent preference, (d) parent expectation, and (e) aural functioning. Eleven variables were not significant in accounting for variability of placement. The variable that received the most weight in the analysis was academic functioning (beta weight = .4049) which accounted for 16% of the variation in placement within this group. IQ and parent preference each accounted for 5% more, respectively. Parent expectation and aural functioning received relatively little weight but were significant.

Group 2 - psychologists. The significant variables for Group 2 (Table 8), in order, were: (a) academic functioning, (b) linguistic functioning, (c) speech reading ability, (d) aural functioning, (e) social adjustment, (f) parent preference, (g) IQ, (h) other handicapping conditions, and (i) speech intelligibility.

Again the variable that accounted for most of the variability of placement in this group was academic functioning (19.3%), beta weight = .4403. It should be noted that IQ was among the last in the priority of variables among the psychologists sampled.

Group 3 - special education teachers. The significant variables for Group 3 (Table 9), in order, were: (a) academic functioning, (b) speech reading, (c) IQ, (d) parent preference, (e) aided hearing, (f) speech intelligibility, (g) motivation, (h) unaided hearing loss, and (i) social adjustment. While the psychologists and teachers each had nine significant variables in the regression equation, it should be noted that the variables were different and the importance attached to those that were shared was also different.

Group 4 - parents of handicapped children. The significant variables for Group 4 (Table 10), in order, were: (a) academic functioning, (b) parent preference, (c) unaided hearing loss, (d) social adjustment, (e) motivation, (f) IQ, (g) parent expectation and (h) other handicapping conditions. There were eight significant variables in the equation; again, academic functioning was the most heavily weighted (beta weight = .4413) and accounted for 19% of the variance. The parents placed some weight on the affective variables of motivation and socialization.

Group 5 - supervisors. The significant variables for Group 5 (Table 11), in order, were: (a) academic functioning, (b) motivation, (c) socialization, (d) unaided hearing loss, (e) IQ, and (f) linguistic functioning. While academic functioning was again the most heavily weighted (beta weight = .3220), it only accounted for 10% of the variance in this equation. The supervisors, like the parents, placed some importance on socialization and motivation.

Group 6 - teachers of the deaf. The significant variables for Group 6 (Table 12), in order, were: (a) academic functioning, (b) IQ, (c) parent preference, (d) parent expectation, (e) aided hearing, (f) speech intelligibility, (g) unaided hearing loss, (h) linguistic functioning, and (h) social adjustment. This group had nine significant variables in the equation and, again, academic functioning was the most heavily weighted (beta weight = .4837). IQ in this equation accounted for 6% of the variability, and was the second most heavily weighted. The teachers of the deaf were the most systematic and predictable in their placement decisions.

Group 7 - audiologists. The significant variables for Group 7 (Table 13), in order, were: (a) unaided hearing loss, (b) academic functioning, (c) IQ, (d) speech intelligibility, (e) aided hearing, (f) social adjustment, (e) linguistic functioning, and (f) distance of placement. It should be noted that the variable that was the strongest in terms of beta weights in the audiologist's equation was unaided hearing loss but the variable only accounted for 9% of the variance in the equation and academic functioning accounted for an additional 6%. Distance was a significant variable in this equation.

Group 8 - speech therapists. The significant variables for Group 8 (Table 14), in order, were: (a) academic functioning, (b) IQ, (c) parent preference, (d) other handicapping conditions, (e) speech intelligibility, (h) unaided hearing loss, and (i) motivation. There were seven significant variables in this equation with academic functioning the most heavily weighted (beta weight = .4804). While speech intelligibility was significant, it only accounted for 1% of the variability in placement.

Summary of Multiple Regression Analyses

As stated previously, the results of stepwise regressions done for each rating group showed that fewer variables entered the group equations than when all groups were considered simultaneously and that the greatest number of variables in an equation was nine, while the least was five. The two groups of administrators, chairpersons and supervisors, had the least number of variables in the equation, five and six respectively; teachers and psychologists had the greatest number, nine. The overriding variable in terms of Beta weights and significance was academic functioning which had the highest weight in seven out of eight group equations as well as in both the stepwise and simultaneous regression equations. While the group seven (audiologists) regression gave the highest Beta weight, .2983, to unaided hearing, academic functioning was second with a weight of .2570.

The order of significance of variables differed from group to group and the multiple R square, total variability accounted for, also differed considerably between groups, from a low of .2473 to a high of .4696, indicating that the groups were not uniformly systematic in their placements and that some groups were more predictable in their responses than others. The least systematic group was the supervisors of special education (multiple R square = .2473), whereas the most systematic group was the teachers of special education (multiple R square = .4696), closely followed by teachers of the hearing impaired (multiple R square = .4406). Table 14 compares Beta weights by rating group and summarizes those criteria given significant weight in the decision making process of the groups. Academic functioning and IQ were significant to all groups while the variables of aural functioning speech reading, and distance were only significant for one or two groups. Each of the other variables was significant to three or more groups.

Table 7

Summary of Stepwise Regression of Placement on Placement Criteria - Rating Group 1

Chairpersons

Variable	R	R^2	R^2 Change	β	r
Academic	.4049	.1640	.1640	.4049	.405
IQ	.4582	.2100	.0460	.2150	.242
Prntpref	.5096	.2597	.0497	.2338	.263
Prntexp	.5256	.2763	.0166	.1298	.067
Aural	.5438	.2957	.0194	.1436	.210

Note. Variables in the equation = 5

Variables not in the equation = 11

Table 8

Summary of Stepwise Regression

of Placement on Placement Criteria - Rating Group 2

Psychologists

Variable	R	R^2	R^2 Change	β	r
Academic	.4403	.1938	.1938	.4403	.440
Linguist	.4837	.2339	.0401	.2016	.249
Speechrd	.5096	.2597	.0258	.1622	.221
Aural	.5325	.2836	.0239	.1634	.246
Social	.5514	.3041	.0205	.1444	.148
Prntpref	.5686	.3233	.0192	.1423	.193
IQ	.5873	.3449	.0216	.1497	.152
Othhand	.6034	.3641	.0192	.1415	.116
Speechin	.6150	.3782	.0141	.1232	.101

Note. Variables in the equation = 9

Variables not in the equation = 7

Table 9

Summary of Stepwise Regression
of Placement on Placement Criteria - Rating Group 3
Special Education Teachers

Variable	R	R^2	R^2 Change	_	r
Academic	.5016	.2516	.2516	.5016	.502
Speechrd	.5633	.3173	.0657	.2595	.332
IQ	.6072	.3687	.0514	.2292	.298
Prntpref	.6342	.4023	.0336	.1879	.304
Hearaid	.6527	.4260	.0237	.1592	.257
Speechin	.6668	.4446	.0186	.1385	.141
Motiv	.6729	.4528	.0082	.0925	.214
Hearun	.6795	.4617	.0089	.0972	.129
Social	.6853	.4696	.0079	.0924	.180

Note. Variables in the equation = 9
Variables not in the equation = 7

Table 10

Summary of Stepwise Regression

of Placement on Placement Criteria - Rating Group 4

Parent of Handicapped Child

Variable	$\underline{R}$	$\underline{R}^2$	$\underline{R}^2$ Change	$\underline{\beta}$	$\underline{r}$
Academic	.4413	.1947	.1947	.4413	.441
Prntpref	.4991	.2491	.0544	.2235	.257
Hearun	.5303	.2812	.0321	.1795	.160
Social	.5510	.3037	.0225	.1499	.169
Motiv	.5669	.3214	.0177	.1362	.141
IQ	.5783	.3344	.0130	.1162	.126
Prntexp	.5897	.3477	.0133	.1187	.038
Othhand	.5986	.3584	.0107	.1047	.117

Note. Variables in the equation = 8

Variables not in the equation = 8

Table 11

Summary of Stepwise Regression of Placement on Placement Criteria - Rating Group 5

Supervisors

Variable	R	R^2	R^2 Change	β	r
Academic	.3220	.1037	.1037	.3220	.322
Motiv	.3796	.1441	.0404	.2010	.209
Social	.4195	.1760	.0319	.1790	.200
Hearun	.4590	.2107	.0257	.1878	.162
IQ	.4784	.2289	.0182	.1390	.218
Linguist	.4973	.2473	.0184	.1377	.160

Note. Variables in the equation = 6

Variables not in the equation = 10

Table 12

Summary of Stepwise Regression

of Placement on Placement Criteria - Rating Group 6

Teachers of the Deaf

Variable	R	R^2	R^2 Change	β	r
Academic	.4837	.2339	.2339	.4837	.484
IQ	.5457	.2978	.0639	.2582	.347
Prntpref	.5890	.3469	.0491	.2267	.288
Prntexp	.6103	.3724	.0255	.1611	.098
Hearaid	.6273	.3935	.0211	.1490	.241
Speechin	.6403	.4100	.0165	.1343	.130
Hearun	.6487	.4209	.0109	.1102	.229
Linguist	.6573	.4320	.0111	.1200	.313
Social	.6637	.4406	.0086	.0994	.166

Note. Variables in the equation = 9

Variables not in the equation = 7

Table 13

Summary of Stepwise Regression of Placement on Placement Criteria - Rating Group 7

Audiologists

Variable	R	R^2	R^2 Change	β	r
Hearun	.2983	.0890	.0890	.2983	.298
Academic	.3988	.1590	.0700	.2676	.217
IQ	.4404	.1939	.0349	.1883	.211
Speechin	.4621	.2136	.0197	.1407	.120
Hearaid	.4831	.2334	.0198	.1426	.194
Social	.5012	.2512	.0178	.1342	.163
Linguist	.5227	.2732	.0220	.1539	.219
Distance	.5341	.2852	.0120	-.1120	-.198

Note. Variables in the equation = 8
Variables not in the equation = 8

Table 14

Summary of Stepwise Regression

of Placement on Placement Criteria - Rating Group 8

Speech Therapists

Variable	R	R^2	R^2 Change	β	r
Academic	.4804	.2308	.2308	.4804	.480
IQ	.5247	.2753	.0445	.2119	.256
Prntpref	.5499	.3024	.0271	.1656	.128
Othhand	.5634	.3174	.0150	.1233	.093
Speechin	.5736	.3290	.0116	.1091	.077
Hearun	.5842	.3413	.0123	.1120	.136
Motiv	.5952	.3542	.0129	.1163	.176

Note. Variables in the equation = 7

Variables not in the equation = 9

Table 15

Summary of Beta Weights
of Placement Criteria by Rating Group

Variable	Group 1	2	3	4	5	6	7	8
Academic Function	.40[a]	.44	.50	.44	.32	.48	.27	.48
IQ	.22	.15	.23	.12	.14	.26	.19	.21
Parent Preference	.23	.14	.19	.22		.23		.16
Parent Expectation	.13			.12		.16		
Aural Function	.14	.16						
Linguistic Function		.20			.14	.12	.15	
Speech Reading		.16	.26					
Social		.14		.15	.18	.10	.13	
Other Handicap		.14		.10				.12
Speech		.12	.14			.13	.14	.11
Hearing Aided			.16			.15	.14	
Motivation			.09	.14	.20			.11
Hearing Unaided			.10	.18	.19	.11	.30	.11
Distance							-.11	

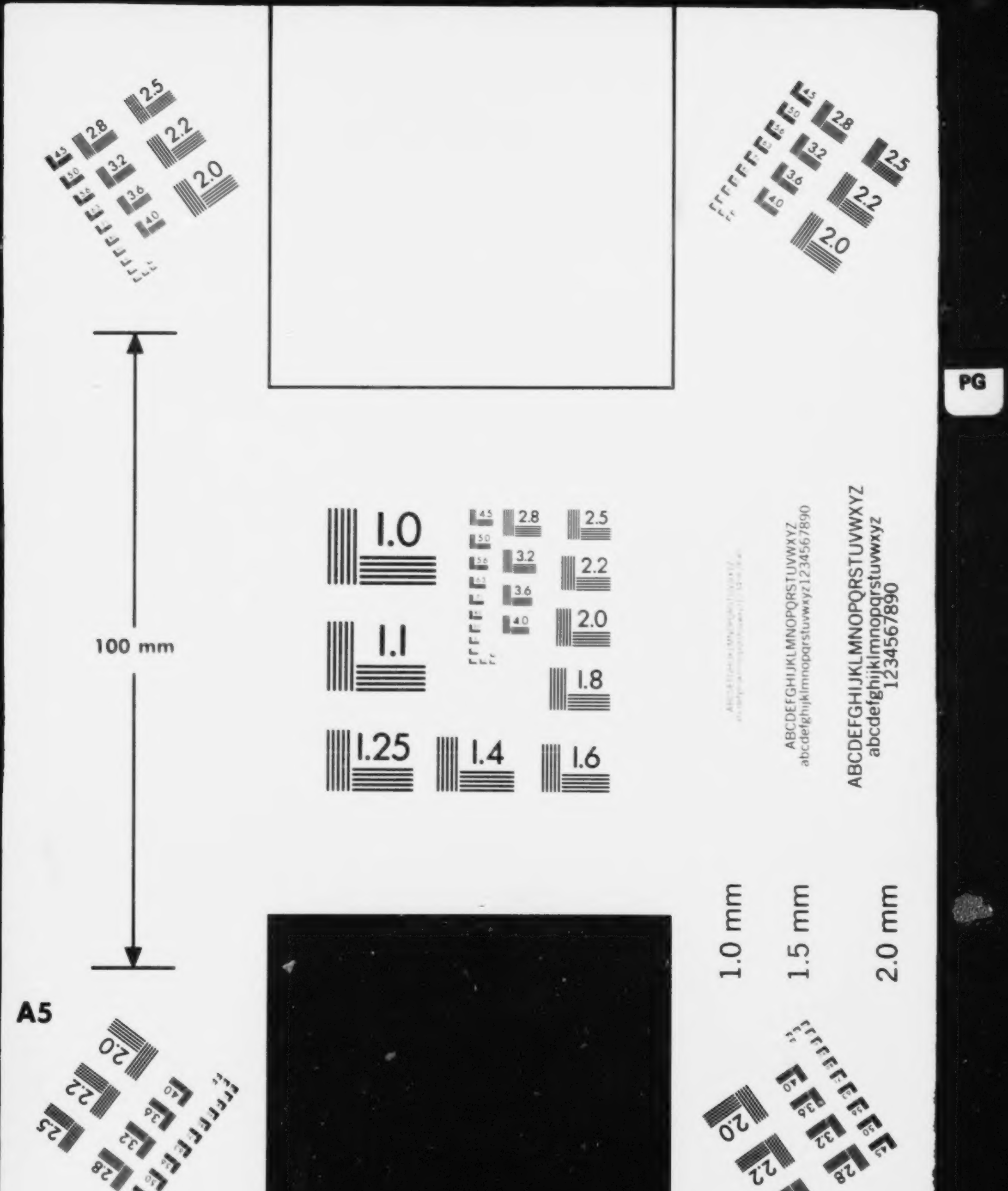
Note. Total variables given weight by groups = 14

[a] Beta Weights rounded to 2 decimal points.

Committee Placement Analysis

The case study randomly selected for the committee debates was case #104, Giles Brent. The researcher, a faculty member experienced in the area of hearing impairment and three doctoral students in the Program in the Education of the Hearing Impaired at Teachers College debated the case prior to its distribution to the committees. The debate of the case by the above mentioned group of experts resulted in the placement of Giles in #6, a part time special class with mainstreaming in elective subjects and in math. The criteria used by the experts in their placement were the student's limited vocabulary, fair academic functioning and fair self image. While parental preference and the distance of the special classes were considered, the experts felt that parental pressure may have contributed to the students fair self image and that the parents' desires did not outweigh the perceived need for a placement that would give the student the opportunity to improve academic and language skills.

The results of placements in the natural setting by the various Committee on the Handicapped placement team meetings are summarized in Table 16. Some interesting tendencies were noted. Twelve of the 26 committees placed the student in placement #6, the part time special class.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Feedback from the committees regarding the criteria debated indicated that the teacher recommendation of continuation in the special class had the most influence on their decision. The committees also reported a great deal of discussion regarding the student's academic functioning. It was felt that with the achievement being one to one and a half years below grade level, the student was apt to fail in a resource room setting. Seven committees, however, did choose placement #4, the resource room without interpreter. Feedback from these committees indicated that they were most influenced by parent preference for a mainstreamed setting and by the location of the special class which, despite the fact that it was within commuting distance, was outside of the local school district. Several committees chose placement #3, itinerant services of a teacher of the hearing impaired in a regular class setting, and indicated that tutor notetaking services as well as speech/language services should be made available to the student.

Seventeen individual placements were made for student #104, seven by committee members and ten by members of the ancillary expert groups. These seventeen placements were cross tabulated by two rating groups, a committee member group and an ancillary expert group (see Table 16). The results of the cross tabulation did not show significant differences by placement team membership classification. The majority of these individuals, however, placed the student in placement #3, the regular class with itinerant services and the placement team members tended to place less restrictively than the ancillary experts.

Table 16

Placements of Case Study #104 - Giles Brent

Variable	Placement						
	2	3	4	5	6	7	Totals
By Committee		3	7	3	12	1	26
		11.5	26.9	11.5	46.1	3.8	100%
By Individuals	1	6	3	4	3		17
	5.9	35.3	17.6	23.5	17.6		100%
COH Group		4	1	2			7
		57.1	14.2	28.5			100%
Expert Group	1	2	2	2	3		10
	10.0	20.0	20.0	20.0	30.0		100%

Note. The comparisons were statistically non-significant but do denote trends.

Chapter V

DISCUSSION

Individual Placements

It was hypothesized that the priority of importance placed on the criterion variables in the study would differ from group to group and that there would be a small set of criteria that would contribute significantly to the decision making process regarding placement. It was further hypothesized that parent involvement would be among the small set of criteria used by the majority of the groups in the study. The rationale behind the latter hypothesis was that the Committee on the Handicapped placement team might be influenced by due process requirements and, in an attempt to avoid impartial hearings, might weight parent wishes quite heavily. It was also felt that the average parent of a hearing impaired child is quite knowledgeable regarding the disability and the related service needs and, therefore, that the average expert in the field would weight parent preference heavily in his/her placement decisions.

There were four research questions that this study attempted to answer. In order to assist the reader, each will be discussed in turn.

The first question was: what are the significant criteria used to make placement decisions regarding the hearing impaired student?

The simultaneous and stepwise multiple regressions indicated the relative weights given to the criterion variables used in the study. In the simultaneous entry of criteria into a regression analysis, the regression equation showed 12 criterion variables that significantly accounted for variability in placement and four that did not. Stepwise regression allowed the identical twelve variables into the equation and rejected the four that were non-significant. As a result, the answer to question one is that the following are the significant criteria were used in making placement decisons: unaided hearing loss, aided hearing loss, IQ, academic functio;ning, motivation, aural functioning, linguistic functioning, social adjustment, parental preference, speech intelligibility, the presence of other handicapping conditions, and speech reading. The non-significant variables in both simultaneous and stepwise analyses were: distance, parent expectation, manual ability and self concept.

The second question asked if there were differences or similarities in the sets of criteria used by the eight different rating groups. The study clearly showed that both similarities and differences did exist. A clearer understanding of these similarities and differences can be obtained by inspecting the order of priority of the significant variable used in educational placement decisions by each rating group as outlined in the discussion of question three.

The third question attempted to ascertain if there were differences in the priority of criteria evidenced by professionals in the area of hearing impairment and by members of placement teams.

As predicted, the groups differed in the order of priority placed on the criteria and a small set of criterion variables emerged in the regression equations for groups as being significantly different from zero in accounting for the variability of placement. Only two criteria were significant to all groups, academic functioning and IQ. Parent preference and unaided hearing loss each were significant criteria for six groups, but not each for the same six groups. Speech intelligibility and socialization were each significant to five groups, but again, not each for the same five groups. Despite the fact that the eight groups agree on several criteria, given basically the same information, they do not interpret the information in the same way and do not make the same placement decisions. The criterion variables that show up strongest according to beta weights differ from group to group.

There were several groups whose responses were more predictable than others. By that it is meant that the variables within the equation account for more of the variance in placement than do other equations. Special education teachers, psychologists and teachers of the deaf took into account the most information in their decision making process. The two groups of teachers were the most systematic and predictable in their decisions. This is understandable when analyzing the homogeneity of the educational backgrounds of teachers. The psychologists in the present study, as in other studies, gave significant weight to academic functioning and IQ; however, IQ received relatively less of a priority in their decisions than expected.

The administrators, both chairpersons and supervisors were the least systematic and predictable in their decisions and used the least amount of the information provided; it should be noted, however, that both groups had the most heterogeneous backgrounds. For example, the chairpersons included those with backgrounds in general administration, psychology and special education administration and the supervisors had backgrounds ranging from clinical practice to teaching. While the administrators were similar in the respects noted above, they used very different kinds of information to make decisions. The equation for the chairpersons of committees weighted parent preference and expectation heavily; the supervisor's did not weight either as significant. The supervisors included affective variables, such as motivation and social adjustment, whereas the chairperson did not include affective variables.

The parents on the committee were fairly systematic and predictable in their placements and fairly homogeneous in background. They used much of the information provided, behavioral as well as academic and, as expected, parent preference and expectation emerged as significant in their equation.

The two groups of clinicians, audiologists and speech therapists, were not as similar as might have been expected. The speech therapists were more systematic and predictable than the audiologists; however, the audiologists came from more varied backgrounds than the speech therapists who basically worked in school settings.

While the audiologist's equation placed the most weight on unaided hearing loss, academic functioning was almost as important as hearing loss and, interestingly, distance was also a significant variable in their decisions. Distance as a variable examined the relative time that it would take to arrive at the placement from the student's home and while only significant in this one group regression equation, was mentioned quite often in the feedback regarding the placement in the natural setting of the committee meetings.

The placements by group Chi-square cross tabulations were also very different; committee on the handicapped groups tended to place less restrictively on the continuum of special education services than the expert groups.

The review of the literature has delineated characteristics that seem to be related to the success of hearing impaired children in the mainstream and those variables were chosen to be included in the present study. According to most of the studies reviewed, aided hearing, speech reading ability and aural functioning were important if a hearing impaired child was to function in the hearing world. It was, therefore, surprising that those three criteria only emerged as significant in a few group equations; speech reading ability in psychologists', aided hearing in audiologists' and the two teacher groups; aural functioning in chairpersons and psychologists. It is possible that the respondents in this study assumed that the students would learn to sign; however, manual ability did not emerge as a significant criterion for any group.

Both empirical and a priori studies mentioned in the review of the literature discussed the dangers of considering unaided hearing loss as the sole criterion for placement of the hearing impaired child. The results of this study clearly show that hearing loss was not the sole criterion used for placements; on the contrary, while included in the equation for six groups, it was given low priority in the order of significance for all but one.

Past studies have further stressed the importance of parent involvement in the success of hearing impaired children in the mainstream. While parent preference did emerge as a strong variable in placement decisions, parent expectation was only significant to the chairpersons, parents and teachers of the deaf.

The Phase I of the Individual Education Plan (IEP) for handicapped students stresses the importance to the placement process of four areas; current academic functioning, social development, physical development and management needs. The criterion variables of the present study were designed to include representation from all of these areas and the results have shown that the various groups tend to use information from most of the areas in their decision making. Academic functioning was by far the most heavily weighted variable, as it should be in consideration of placement; however, if one considers mainstreaming to be a part of the socialization process, it is disturbing to surmise that the provision of a continuum of services from least to most restrictive may not be designed to utilize mainstreaming as a vehicle for socialization. While social adjustment was a significantly weighted variable in the study for six groups, it must be remembered that almost all variables had a linear relationship with placement such that the more severe the level, the more restrictive the placement.

Motivation of the student, as well, was only significant to four groups and was low in the priority of importance for these groups. The results of this study, therefore, clearly agree with other studies that have stated that behavioral characteristics of students do not receive as much weight in placement decisions as academic information.

Placements by Committee

The fourth question asked if there were differences in placement decisions made in the committee from placement decisions made by individuals.

The ancillary expert groups, on almost all measures, tended to place hearing impaired students in more restrictive placements. The committee debate material was designed to study the criterion variables and their interactions with the committee process. Since the expert validation debate had placed the randomly selected case study in a special class setting and the report to the committees from the teacher was designed to reflect that initial debate, the committee presentations were weighted in favor of a more restrictive placement. The tendency of the committees to respond to that bias is shown by the majority of the committees placing the student in the special class while individual placements tended to favor placement in the resource room. A major criticism of committee functioning has been that Committees on the Handicapped do not deliberate information but come to the committee process with pre-conceived notions of placement. The results of the present study do not agree with that criticism. If the committees in the present study had come to the committee process with a preconceived placement, the expert testimony of the teacher would have been ignored and the committees would have placed the student less restrictively, in keeping with their individual placements.

A further criticism of the committee decision making process has been the reliance on expert testimony. It would appear to be true that the committees in the present study relied on the report from the teacher of the deaf in their choice of placement for the randomly selected case; however, it must be remembered that hearing impairment is a low incidence handicapping condition and that the majority of the committees had little experience with placement of hearing impaired children and as a result they may have relied upon expert testimony more heavily than when making educational placement decisions of higher incidence or more mildly handicapped youngsters.

In addition, it is interesting to note that the background of the committee chairperson may have been a mediating variable in the committee placements. Committees whose chairperson had a special education background tended to place in the part time special class while those with backgrounds in general administration and psychology tended to place in a resource room or regular

Table 17

Placement of Case Study #104

By Chairperson's Background

Variable	Placement						
	2	3	4	5	6	7	Totals
Spec. Ed.		2	1		5	1	9
Background		22.2	11.1		55.5	11.1	34.6
General Admin.			5	2	2		9
Background			55.5	22.2	22.2		34.6
Psychology		1	1	1	5		8
Background		12.5	12.5	12.5	62.5		30.8
Totals		3 11.5	7 26.9	3 11.5	12 46.2	1 3.8	26 100.0

class with itinerant services of a teacher of the hearing impaired (see Table 17).

The results of the present study have shown that different groups of people involved in placement decisions do not interpret the information presented to them in the same way. While the groups agree on some significant criteria, they weight their importance differently.

Previous studies have mentioned the desirability of inclusion of information collected in the field in comparison to information collected in a simulated placement task. The present study has attempted to present information that should be useful to those interested in this kind of comparison.

Limitations of the Study

Limitations of the present study include the following factors: (a) the necessity to limit the amount of information presented in the case studies so that the task was not inordinately time consuming; (b) the limitations inherent in simulation tasks; and (c) the fact that only committees in New York State were sampled. With regard to the first and second issues, while it may be true that a study using a smaller number of case studies of real children would allow more information to be presented for each case, would be more representative of the actual population of hearing impaired youngsters and probably would not appear to be as redundant as the simulated case studies. Such a study probably would not allow for the systematic manipulation of the student characteristics as independent variables. These limitations then are outweighed by the advantages of the simulated case approach used in this study.

Although the geographical locale of the study was restricted to New York State, it was felt that the results can be generalized given the constituency of the similar committees in other states.

A further limitation of the study was that the multiple regression analyses of the criterion variables used in this study indicated that the significant variables accounted for 35% of the variability of the placement decisions made regarding the 2120 case studies; therefore, there was an additional 65% of the variability that was not accounted for. The analyses used in the present study, however, would not reveal the influence of other variables such as judge bias which might account for more of the unexplained variance in placement. Taking this into account, subsequent aanalysis of the data could explain the questionable variance.

Chapter VI

SUMMARY AND IMPLICATIONS

Summary

The subjects of the study were members of twenty-six Committees on the Handicapped, a total of 110 committee members, and 102 members of groups knowledgeable about hearing impairment; the two groups yielded a total of 212 subjects. The subjects individually completed a task in which they were asked to place ten simulated case studies of hearing impaired children in one of eight placement choices. In addition, the committee members were asked to convene in their respective committees in order to place one randomly selected case.

The instrument consisted of questionnaires requesting demographic information pertaining to the background of the subjects and the organizations in which they worked, 279 computer generated case studies of hearing impaired children, and a teacher report regarding one randomly selected case study used in the second task. Data collection resulted in 2120 individual placements and 26 simulated debates regarding the randomly selected case. The data were analyzed using chi-square tests of significance and multiple regression analysis. The dependent variable was special education placement and the independent variables were sixteen characteristics of hearing impaired children that were considered information that the subjects would need to take into account when making placement decisions.

The results of the study showed that the various groups of subjects placed relatively different importance on the variables although several emerged as important to all groups. The results of the analysis of committee placements, while not statistically significant, did indicate a tendency for placements that were more restrictive than those made in the individual task. Anecdotal information indicated that the committees used the teacher report and /or parent preference as bases for the debates.

The results and discussion related to the statistical analyses done in the present study have led to the following general conclusions regarding the criterion variables, the groups and the committee process in regard to placement.

The Criterion Variables

The overriding variable in terms of beta weights and amount of variance accounted for was the academic functioning of the child. As has been stated previously, the academic area is of legitimate concern in the placement of any handicapped child and is given priority by the New York State Education Department in its regulations regarding the referral, evaluation and placement of handicapped children; however, three other areas are also given priority by these regulations, they are: social development, management needs and physical development. The amount of variance accounted for by academics in this study varied from group to group and was particularly important to a few groups to the exclusion of other variables. It is evident that some groups did not examine all of the information presented to them.

IQ was the second most important variable in the study. IQ is important in decision making as it is a measure of potential. As such, the discrepancy between IQ and academic functioning is crucial to a diagnosis of several handicapping conditions. In the case of the hearing impaired child, however, intelligence is a difficult area to test and results can be misleading. While it is important to consider intelligence test results in making placements decisions, undue and singular reliance on them should be avoided. Fortunately, this did not seem to be the case with the rating groups in this study.

Parent preference was added at the request of the federal government and emerged as significant in four subgroups of the Committee on the Handicapped placement teams, as well as the teacher of the deaf and speech therapist groups. The variable eluded to preference as to placement and was of major priority in placement decisions; however, its "companion" variable, parent expectation, was not significant to most groups.

The aural area was only significant to the chairperson and psychologist groups. This variable is related to the child's ability to receive information auditorily and can be crucial to a child's success in the mainstream according to studies mentioned in the Review of the Literature. Interestingly, aural functioning was not in the regression equations of any of the ancillary expert groups.

Linguistic functioning was significant to three of the ancillary expert groups and only one of the committee groups, the psychologists. This is a language area related to expressive rather than receptive areas. It would appear that, in the case of the hearing impaired child, expressive language is considered by the ancillary expert groups when deciding placement and receptive variables such as, aural functioning and speech reading were not. However, curiously enough, the variable of manual communication ability was not significant to any group. Possibly there is the presumption that if a youngster has good expressive abilities he or she must have at least adequate receptive abilities in some form.

Social development was significant in the equations for five groups. Three of the expert groups and two of the committee groups. It was, however, not heavily weighted according to beta weights. Unaided hearing loss was significant in six equations but also was not heavily weighted in the equation of any group but the audiologists. Several other variables, i.e., the presence of other handicapping conditions, aided hearing status, speech intelligibility, and distance of the educational placement alternatives, played a significant but minor role in the decisions of some groups.

Research studies regarding placement team decisions have demonstrated that the teams did not often operate along the lines of rational decision making, but rather, relied on either expert opinion or preconceived notions of placement based on potentially biasing information. There have been some studies that used multiple regression analysis to determine the weights given to variables that might be used by decision makers in the placement process. To date, however, research has not been done for many populations of handicapped children and none have been done for hearing impaired children which used actual decision makers as subjects. The present study investigated the variables considered important to knowledgeable and less knowledgeable decision makers on both an individual basis and within the natural context of the placement committee meeting.

The placement teams in this study followed the model of Fenton et al. (1979) and considered the alternatives of placement available to them. While the majority of the committees followed the recommendation of the expert, several committees chose less restrictive placements for the student with the stipulation of provision of related services such as speech therapy and tutor-notetakers. The Committee on the Handicapped chairperson did not dictate placement in these committee meetings although there is a possibility that his background did affect it. Parent preference was seen as important to many committees but also did not dictate placement.

Implications of the present study

The study showed that placement team members differed from each other in terms of the information that they considered when making placement decisions and that they differed from the experts in the area of the education of hearing impaired individuals as well. The study further showed that most information, including the testimony of experts, was used in deliberations about placement for many but not all of the joint Committee on the Handicapped placment decisions and that as individuals many members of the Committee on the Handicapped did not make use of all of the information. In fact, certain subgroups made use of little information particularly that which related directly to the hearing impairment itself. While consensus decision making can be positive and can lead to decisions based on the examination of information from a variety of sources, it can also lead to erroneous decisions, if based upon limited information. There is a need for informed decision making based on considerable knowledge about all of the handicapping conditions for which decisions will be made, including those of low incidence, on the part of all members of the team. Members of placement teams come from varied backgrounds; some have knowledge regarding various handicapping conditions and some do not. There is a need for in-service training of team members so that those with limited knowledge regarding the various handicapping conditions in question can make more informed contributions to the decisions.

There is also a need for committee members to more fully appreciate the notion underlying the concept of least restrictive environment. Least restrictive environment is a continuum, not be equated with the notion of mainstreaming. The least restrictive environment for some children may not be the regular class or the resource room, but may be the part time or full time special class. This further underscores the need for in service training of committee members.

Even within the general category of "experts" not all of the information was used nor was there high predictability in the placement decisions made. Such findings suggest that at least some "experts" are in need of further in service training to sensitize them to the importance of certain criterion variable in making appropriate and informed placement decision.

Implications for future research

Future studies could be undertaken which present information on case studies involving different populations of handicapped students. While the majority of criterion variables used in the present study are generalizable to placement decisions made for other handicapped children, several are unique to the hearing impaired child. It would be interesting, for example, to ascertain if teacher testimony is equally as important to decisions regarding the higher incidence handicapping conditions, such as learning disability and emotional handicap. It would also be interesting to see if different handicapping conditions cause changes in relative weights and the priority of importance of the criteria used by committees in making decisions.

The data within the present study could also be subjected to analyses designed to evaluate each case study and its placements so as to determine the presence of judge bias and/or other unidentified variables.

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Appendix A

INSTRUCTIONS

A. Please fill out the questionnaire requesting background information.

B. For the purpose of this study:

- Assume that you are a staff member of a moderate size local school district with a traditional instructional program that attempts to provide for individual differences.
- The following hearing impaired children, all male, all age eight, have been re-evaluated recently. You are a part of the team that will recommend placement for these children.
- The district has decided that all decisions should be made independent of prior placement information.
- Assume that all test results and observations are valid and reliable.

C. The children have had the following evaluations:

- Audiological testing;
- Psychological testing consisting of the performance scale of the Wechsler Intelligence Scale for Children, and a screening of self-concept;
- Achievement tests yielding a grade equivalent score;
- Tests for expressive and receptive language skills;
- A social history and a medical examination.

D. First read the glossary, then read through all ten of the brief descriptions. Re-read each one and check the number from 1-8 which best represents the placement you would recommend for that particular child.

The following special education placements are available to hearing impaired children within the local school district, the Board of Cooperative Educational Services and the State:

1. Regular classroom placement with no basic change in teaching procedures.

2. Consultation services, regular classroom placement with specialists available for consultation with teachers or parents when needed. Speech therapy and tutoring available from local school district personnel.

3. Consultation with direct services, regular classroom placement with itinerant teacher of the hearing impaired to consult and provide direct services to students for one-half hour to two hours, as speci-

fied in the Individual Educational Plan.

4. Resource room, regular classroom placement with resource room services (teacher of the hearing impaired providing supplemental instruction) for up to 49% of the day.

5. Resource room placement as above with interpreter (oral or manual) attending regular classes with the student.

6. Part time special class, placement in a special class for the hearing impaired; student attends regular classes for certain subjects.

7. Full time special class, full time placement in a special class for the hearing impaired but within public education.

8. Placement in a day school or residential school for the deaf.

While is is agreed that it may be difficult to make a recommendation based solely on the information presented and that Committees on the Handicapped would not make recommendations in this manner, please do your best, keeping in mind that the case studies are simulations and have been designed to present the most salient features of the variables in the briefest possible way.

E. Please do not forget to fill in the line at the bottom of the page. This is your guess as to which variables were most important to you.

Please complete the placement task and return in the enclosed envelope within two weeks.

Thank you for your time and effort; it is most appreciated.

Glossary

1. dB - decibel - A measure of loudness built on a logarithmic scale.
2. PTA - Pure tone average of three significant speech frequencies.
3. Aided scores - Pure tone audiometric testing results with hearing aids on.
4. Pure tones - Audiometric testing with tones rather than speech.
5. Aural skills - The use of the auditory pathway for information.
6. Linguistic functioning - Refers to language in general (expressive and receptive) and can include reading/writing skills.
7. Motor/mobility - Refers to gross motor and ambulation abilities.

8. Speech reading abilities - The ability to read lips.

9. Face to face conversation - Normal, daily conversational situations as opposed to more complex academic situations.

COH Member Questionnaire

NAME OF DISTRICT________________________DATE__________

YOUR NAME/PRESENT
POSITION____________________________________

EDUCATION BACKGROUND,
degree major/minor________________________________

1. Number of years on the Committee on the Handicapped?
____

2. Prior to this year, did you have responsibility for providing direct service to handicapped students?
yes________no________
If yes: Number of students ____________________
Type of handicap(s) ____________________
Type of service ____________________

3. Are you currently providing direct service to handicapped students? yes________no________
If yes: Number of students ____________________
Type of handicap(s) ____________________
Type of service ____________________

4. Have you had formal courses in special education?
yes________no________
If yes, please list them____________________________
____

5. Have you had formal courses in hearing impairment?
yes________no________
If yes, please list them____________________________
____

6. Have you had any contact with hearing impaired students? yes________no________
If yes, describe as to number and your role__________
____

7. Years of experience in present position. ____________

8. Previous positions held. ____________________________
____

Professional Questionnaire

NAME OF DISTRICT AND/OR AFFILIATION______________ DATE____

YOUR NAME/PRESENT POSITION ________________________

EDUCATIONAL BACKGROUND, degree major/minor_________________

1. Previous position held. _________________

2. Number of years of professional practice including teaching. _________________

3. Prior to this year did you have responsibility for providing direct service to students? yes______ no______
   If yes: Number of students _________________
   Type of students _________________
   Type of service _________________

4. Do you currently teach school age children? yes______ no______
   If yes: Number of students _________________
   Type of students _________________

5. Do you currently assess school age children? yes______ no______
   If yes: Number of students _________________
   Type of students _________________

6. Have you had courses in special education? yes______ no______
   If yes, please list them______________________________
   ____

7. If your degree is not in the area of education of the deaf, please list courses that you have had related to psychology of the deaf, nature and needs of the deaf, language development, education of deaf children
   ____
   ____.

8. What is your total caseload this year?_________________
   Of the above number, how many are classified as hearing impaired? _________________

BOCES Supervisor Questionnaire

YOUR NAME____________________________________DATE__________

NAME OF BOCES____

YOUR TITLE____

1. Number of handicapped students served in your BOCES. ___________________

2. Total number of hearing impaired students. (any loss over 30 decibels) ___________________

3. Placement of hearing impaired students

   Number in BOCES self-contained class___________________

   Number in BOCES resource room ___________________

   Number with BOCES itinerant services___________________

4. Special education personnel:

   Number of BOCES special education teachers.____________

   Number of BOCES teachers of the hearing impaired. ____________

   Number of BOCES speech therapists. ____________

   Number of BOCES audiologists. ____________

COH Chairperson Questionnaire

YOUR
NAME________________________________DATE______________

NAME OF
DISTRICT____________________________BOCES_____________

Does your district provide all of its own services for handicapped students or does it use BOCES services?________

1. Total number of students in district.________________

2. Total number of handicapped students.________________

3. Total number of hearing impaired students.
(any loss over 30 decibels) ________________

4. Placement of hearing impaired students:

    Number in private school ______________
    Number in district self-contained class ______________
    Number in BOCES self-contained class ______________
    Number in district resource room ______________
    Number in BOCES resource room ______________
    Number with related services only ______________
    Number with no services ______________

5. Special education personnel:

    Number of special education teachers
    (district) ______________
    Number of special education teachers
    (BOCES) ______________
    Do you have a teacher of the hearing
    impaired? yes____no_____
    If yes, employed by District___BOCES____

case(2331-3233-1112-1321)

Colin is an eight year old hearing impaired child:

The student has a severe hearing loss of 83 dB PTA. Aided scores do not show improvement of hearing with hearing aid use. IQ is between 75 and 85. Self-concept is good in that he shows a strong belief in his abilities. Academic functioning is low, more than two years below grade level. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated. He is considered to have poor aural skills as he did not seem to depend upon his hearing and he understood little except for a few isolated words through his hearing. His linguistic functioning is poor in that he does not typically generate complete sentences, his vocabulary is limited, and a number of grammatical omissions and errors are noted. His social adjustment is good; he relates well to both peers and the adults in his environment. Parental expectation is extremely high. His parents expect superior work and effort from him. His parents prefer him in a mainstreamed setting. Although he has been exposed to sign language and finger spelling he is not comfortable with their use. His speech is readily intelligible to all listeners. There are no other physical problems present. He is a good speech reader and can follow normal face-to-face conversation fairly well. All regular school and resource placements (placement options 1-5) are within the local school district. Both the special classes and the day/residential private placement are within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

BEST COPY AVAILABLE

case(3132-3311-1213-2122)

Robert is an eight year old hearing impaired child:

The student has a profound hearing loss of 105 dB PTA. His aided hearing scores approach normalcy. IQ is between 75 and 85. Self-concept is fair in that he shows some doubts and insecurities about his abilities. Academic functioning is low, more than two years below grade level. Motivation is very poor, student is not interested in academics and his interest is extremely hard to stimulate. He is considered to have good aural skills in that he seems to be auditorily oriented and has good discrimination abilities. His linguistic functioning in terms of syntactic complexity, word knowledge and use of language is quite good and approximates that of his normally hearing peers. His social adjustment is good; he relates well to both peers and the adults in his environment. Parental expectation is average. His parents expect him to do as well as possible in school but do not push him to overachieve. His parents prefer him in a mainstreamed setting. He has been exposed to sign language and finger spelling and is comfortable with their use. His speech is moderately intelligible and can be understood by most listeners with concentration. He possesses a mild motor/mobility problem in addition to the hearing impairment. He has some difficulty following conversations via speech reading. All regular school and resource placements (placement options 1-5) are within the local school district. Both the special classes and the day/residential private placement are within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this child?--

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case(1112-1321-2223-3132)

Reggie is an eight year old hearing impaired child:

The student has a moderate hearing loss of 55 dB PTA. His aided hearing scores approach normalcy. IQ is between 115 and 125. Self-concept is fair in that he shows some doubts and insecurities about his abilities. Academic functioning is on grade level. Motivation is very poor, student is not interested in academics and his interest is extremely hard to stimulate. He is considered to have fair aural skills; although he is auditorily oriented, he shows some difficulty in following conversations via the auditory pathway because of inadequate discrimination abilities. His linguistic functioning in terms of syntactic complexity, word knowledge and use of language is quite good and approximates that of his normally hearing peers. His social adjustment is fair in that relationships with both his peers and adults in the environment depend on the situations in which he finds himself every day. Parental expectation is average. His parents expect him to do as well as possible in school but do not push him to overachieve. His parents want him in a setting that is as least restrictive as possible for him. He has been exposed to sign language and finger spelling and is comfortable with their use. His speech intelligibility is poor but can be understood by the sophisticated listener in the context of the situation. He possesses a mild motor/mobility problem in addition to the hearing impairment. He has some difficulty following conversations via speech reading. All regular school and resource placements (placement options 1-5) are within the local school district. Special classes are not within easy commuting distance (approximately 50 miles away), day/residential private school is within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?--

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case(2223-3132-3311-1213)

Carlton is an eight year old hearing impaired child:

The student has a severe hearing loss of 83 dB PTA. Aided scores sho some improvement of hearing as a result of hearing aid use. IQ is between 95 and 105. Self-concept is poor in that he projects a sense of failure and futility. Academic functioning is low, more than two years below grad level. Motivation is very good, student works consistently at all tasks. He is considered to have poor aural skills as he did not seem to depend upon his hearing and he understood little except for a few isolated words through his hearing. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited. His social adjustment is poor in that he cannot relate to the adults and peers in his environment despite the situation. Parent expectation is low. His parents evidence a lack of faith in his abilitie and do not show interest in his work at home. His parents prefer him in a mainstreamed setting. He is unfamiliar with sign language or finger spelling. His speech is readily intelligible to all listeners. A severe motor/mobility problem is also present. He is a poor speech reader; visual cues do not help him to follow any conversations. All regular school and resource placements (placement options 1-5) are within the loca school district. The day/residential private placement is not within easy commuting distance, special classes are within commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residentia school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?--

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case(3233-1112-1321-2223)

Bob is an eight year old hearing impaired child:

The student has a profound hearing loss of 105 dB PTA. Aided scores show some improvement of hearing as a result of hearing aid use. IQ is between 75 and 85. Self-concept is poor in that he projects a sense of failure and futility. Academic functioning is on grade level. Motivation is very good, student works consistently at all tasks. He is considered to have good aural skills in that he seems to be auditorily oriented and has good discrimination abilities. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited. His social adjustment is good; he relates well to both peers and the adults in his environment. Parental expectation is low. His parents evidence a lack of faith in his abilities and do not show interest in his work at home. His parents want him in a setting that is as least restrictive as possible for him. He is unfamiliar with sign language or finger spelling. His speech is moderately intelligible and can be understood by most listeners with concentration. A severe motor/mobility problem is also present. He is a poor speech reader; visual cues do not help him to follow any conversations. All regular school and resource placements (placement options 1-5) are within the local school district. Both the special classes and the day/residential private placement are within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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case(3232-3232-3232-3232)

Mark is an eight year old hearing impaired child:

The student has a profound hearing loss of 105 dB PTA. Aided scores show some improvement of hearing as a result of hearing aid use. IQ is between 75 and 85. Self-concept is fair in that he shows some doubts and insecurities about his abilities. Academic functioning is low, more than two years below grade level. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated. He is considered to have poor aural skills as he did not seem to depend upon his hearing and he understood little except for a few isolated words through his hearing. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited. His social adjustment is poor in that he cannot relate to the adults and peers in his environment despite the situation. Parental expectation is average. His parents expect him to do as well as possible in school but do not push him to overachieve. His parents prefer him in a self-contained class with other hearing impaired children. Although he ha been exposed to sign language and finger spelling he is not comfortable with their use. His speech intelligibility is poor but can be understood by the sophisticated listener in the context of the situation. A severe motor/mobility problem is also present. He has some difficulty following conversations via speech reading. All regular school and resource placements (placement options 1-5) are within the local school district. Special classes are not within easy commuting distance (approximately 50 miles away), day/residential private school is within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 9. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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case(1321-2223-3132-3311)

James is an eight year old hearing impaired child:

The student has a moderate hearing loss of 55 dB PTA. Aided scores d not show improvement of hearing with hearing aid use. IQ is between 95 an 105. Self-concept is good in that he shows a strong belief in his abilities. Academic functioning is one to one and a half years below grad level. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated. He is considered to have fair aural skills; although he is auditorily oriented, he shows some difficulty in following conversations via the auditory pathway because of inadequate discrimination abilities. His linguistic functioning is poor in that he does not typically generate complete sentences, his vocabulary is limited, and a number of grammatical omissions and errors are noted. His social adjustment is poor in that he cannot relate to the adults and peers in his environment despite the situation. Parental expectation is extremely high His parents expect superior work and effort from him. His parents prefer him in a self-contained class with other hearing impaired children. Although he has been exposed to sign language and finger spelling he is no comfortable with their use. His speech intelligibility is poor but can be understood by the sophisticated listener in the context of the situation. There are no other physical problems present. He is a good speech reader and can follow normal face-to-face conversation fairly well. All regular school and resource placements (placement options 1-5) are within the loca school district. The day/residential private placement is not within easy commuting distance, special classes are within commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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case(1213-2122-2331-3233)

Jerold is an eight year old hearing impaired child:

The student has a moderate hearing loss of 55 dB PTA. Aided scores show some improvement of hearing as a result of hearing aid use. IQ is between 115 and 125. Self-concept is poor in that he projects a sense of failure and futility. Academic functioning is one to one and a half years below grade level. Motivation is very good, student works consistently at all tasks. He is considered to have fair aural skills; although he is auditorily oriented, he shows some difficulty in following conversations via the auditory pathway because of inadequate discrimination abilities. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited. His social adjustment is fair in that relationships with both his peers and adults in the environment depend on the situations in which he finds himself every day. Parental expectation is low. His parents evidence a lack of faith in his abilities and do not show interest in his work at home. His parents prefer him in a self-contained class with other hearing impaired children. He is unfamiliar with sign language or finger spelling. His speech intelligibility is poor but can be understood by the sophisticated listener in the context of the situation. A severe motor/mobility problem is also present. He is a poor speech reader; visual cues do not help him to follow any conversations. All regular school and resource placements (placement options 1-5) are within the local school district. Special classes are not within easy commuting distance (approximately 50 miles away), day/residential private school is within easy commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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case(1133-3231-2322-2113)

Derek is an eight year old hearing impaired child:

The student has a moderate hearing loss of 55 dB PTA. His aided hearing scores approach normalcy. IQ is between 75 and 85. Self-concept is poor in that he projects a sense of failure and futility. Academic functioning is low, more than two years below grade level. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated. He is considered to have poor aural skills as he did not seem to depend upon his hearing and he understood little except for a few isolated words through his hearing. His linguistic functioning in terms of syntactic complexity, word knowledge and use of language is quite good and approximates that of his normally hearing peers. His social adjustment is fair in that relationships with both his peers and adults in the environment depend on the situations in which he finds himself every day. Parental expectation is low. His parents evidence a lack of faith in his abilities and do not show interest in his work at home. His parents want him in a setting that is as least restrictive as possible for him. Although he has been exposed to sign language and finger spelling he is not comfortable with their use. His speech is moderately intelligible and can be understood by most listeners with concentration. He possesses a mild motor/mobility problem in addition to the hearing impairment. He is a poor speech reader; visual cues do not help him to follow any conversations. All regular school and resource placements (placement options 1-5) are within the local school district. The day/residential private placement is not within easy commuting distance, special classes are within commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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MEMO TO: Committee on the Handicapped Chairpersons
FROM : Beatrice Spear
RE : Simulation of placement

Enclosed is the case study that has been randomly selected for the simulation phase of the research study regarding COH decision making.

Also enclosed is a report on the case (Giles - Case #104) which you are to assume has come from his previous teacher. Assume that the previous teacher is a certified teacher of the deaf and use her report as you would any experts i.e., as part of your decision making process; however, feel free to disagree with her suggestion for placement if your Committee is so inclined.

Please debate the case as soon as possible and then return it to me with your Committee's placement checked in the space on the bottom. Fill in the line which asks for variables used if you can, otherwise, ignore it. A return envelope is enclosed for your use.

Thank you for your time and effort. I will send a copy of the results to your district as soon as they are available.

Name: Giles Brent
D.O.B: 2/21/76
C.A.: 8.3
Date of Report: 5/30/84

Giles is an eight year old child with a severe hearing loss of 83 dB, right and left ears. He has been in my class for two years and has done quite well despite the fact that he is one and a half years below grade level in reading and one year below grade level in math, he has made a great deal of progress in the last two years while in my class.

He is a motivated child most of the time although he can daydream if the work does not interest him. Despite the fact that his mother wants him in a mainstreamed setting all of the time, it is my feeling that Giles continues to need the support of a self contained special education class for part of his day. The third grade is a particularly critical time for a child and Giles has still not learned to use his aural skills as well as he should. His self concept is only fair and he appears to be insecure about his abilities; a resource room would not give him the emotional support that he still needs.

My recommendation for his new placement is that he attend a special class for part of the day for the next year and that he be mainstreamed in math which is his better subject. Perhaps next year when his case is reviewed he could be changed to a resource room placement.

case(2222-2222-1111-1111)

Giles is an eight year old hearing impaired child:

The student has a severe hearing loss of 83 db PTA. Aided scores show some improvement of hearing as a result of hearing aid use. IQ is between 95 and 105. Self-concept is fair in that he shows some doubts and insecurities about his abilities. Academic functioning is one to one and a half years below grade level. Motivation is adequate, student works at tasks that interest him and his interest can be stimulated. He is considered to have fair aural skills; although he is auditorily oriented, he shows some difficulty in following conversations via the auditory pathway because of inadequate discrimination abilities. His linguistic functioning is fair in that he can generate simple and some complex sentences appropriate to the context although a number of grammatical errors are present and vocabulary is somewhat limited. His social adjustment is good; he relates well to both peers and the adults in his environment. Parental expectation is extremely high. His parents expect superior work and effort from him. His parents prefer him in a mainstreamed setting. He is unfamiliar with sign language or finger spelling. His speech is readily intelligible to all listeners. He possesses a mild motor/mobility problem in addition to the hearing impairment. He is a good speech reader and can follow normal face-to-face conversation fairly well. All regular school and resource placements (placement options 1-5) are within the local school district. The day/residential private placement is not within easy commuting distance, special classes are within commuting distance.

Check the recommendation for placement which you feel is most appropriate.

--- 1. Regular class placement, no change in teaching procedures.

--- 2. Regular class placement, with consultation.

--- 3. Regular class placement, direct services from itinerant teacher.

--- 4. Resource room for up to 49 % of the day.

--- 5. Resource room with interpreter.

--- 6. Part time special class.

--- 7 . Full time special class.

--- 8. Day school or residential school for the deaf.

Which variable(s) do you feel most influenced your decision about this

child?____

____

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Appendix B

Computer Program

The procedure followed to generate the case studies consisted of the following steps:

1. A Latin square pairing each of 16 variables with the other was created and called LIST 1. RAW.

2. LIST 1. RAW was used as input for an SPSS program called LIST 1. SPS, which took each row of LIST 1. RAW and crossed each of three levels for a member of each pair of variables with each of three levels for the other member of the pair. The resulting file was called LIST 2. RAW.

3. LIST 2. RAW was used as input for an SPSS program called LIST 2. SPS, which created different orderings of the variables. The resulting file was called LIST 3. RAW.

4. LIST 3. RAW was used as input for an SPSS program called LIST 3. SPS, which was used to sort LIST 3. RAW so that in each row, the variables a through P would appear in alphabetic order. This was done to facilitate the identification of redundant lines. The output was called LIST 4. RAW.

5. A text editor called EMACS was then used to sort the lines in LIST 4. RAW. The resulting file was called LIST 5. RAW.

EMACS was then used to replace the variable names in the file LIST 5. RAW with the actual sentences to be used in the case listing. The resulting case studies were then edited to eliminate redundancies and "impossible" cases.

```
RUN NAME        CREATE LIST2.RAW
FILE NAME       LIST1
PAGESIZE        58
VARIABLE LIST   V1 TO V16
INPUT FORMAT    FIXED (7(2A1,1X)2A1)
INPUT MEDIUM    LIST1.RAW
N OF CASES      UNKNOWN
COMPUTE         A1=1
COMPUTE         A2=2
COMPUTE         A3=3
COMPUTE         B1=1
COMPUTE         B2=2
COMPUTE         B3=3
READ INPUT DATA
WRITE CASES     (15(A1,F1.0,1X),A1,F1.0/15(A1,F1.0,1X),A1,F1.0/
                15(A1,F1.0,1X),A1,F1.0/15(A1,F1.0,1X),A1,F1.0/
                15(A1,F1.0,1X),A1,F1.0/15(A1,F1.0,1X),A1,F1.0/
                15(A1,F1.0,1X),A1,F1.0/15(A1,F1.0,1X),A1,F1.0/
                15(A1,F1.0,1X),A1,F1.0)
                V1,A1,V2,B1,V3,A1,V4,B1,V5,A1,V6,B1,V7,A1,V8,B1,
                V9,A1,V10,B1,V11,A1,V12,B1,V13,A1,V14,B1,V15,A1,V16,B1
                V1,A1,V2,B2,V3,A1,V4,B2,V5,A1,V6,B2,V7,A1,V8,B2,
                V9,A1,V10,B2,V11,A1,V12,B2,V13,A1,V14,B2,V15,A1,V16,B2
                V1,A1,V2,B3,V3,A1,V4,B3,V5,A1,V6,B3,V7,A1,V8,B3,
                V9,A1,V10,B3,V11,A1,V12,B3,V13,A1,V14,B3,V15,A1,V16,B3
                V1,A2,V2,B1,V3,A2,V4,B1,V5,A2,V6,B1,V7,A2,V8,B1,
                V9,A2,V10,B1,V11,A2,V12,B1,V13,A2,V14,B1,V15,A2,V16,B1
                V1,A2,V2,B2,V3,A2,V4,B2,V5,A2,V6,B2,V7,A2,V8,B2,
                V9,A2,V10,B2,V11,A2,V12,B2,V13,A2,V14,B2,V15,A2,V16,B2
                V1,A2,V2,B3,V3,A2,V4,B3,V5,A2,V6,B3,V7,A2,V8,B3,
                V9,A2,V10,B3,V11,A2,V12,B3,V13,A2,V14,B3,V15,A2,V16,B3
                V1,A3,V2,B1,V3,A3,V4,B1,V5,A3,V6,B1,V7,A3,V8,B1,
                V9,A3,V10,B1,V11,A3,V12,B1,V13,A3,V14,B1,V15,A3,V16,B1
                V1,A3,V2,B2,V3,A3,V4,B2,V5,A3,V6,B2,V7,A3,V8,B2,
                V9,A3,V10,B2,V11,A3,V12,B2,V13,A3,V14,B2,V15,A3,V16,B2
                V1,A3,V2,B3,V3,A3,V4,B3,V5,A3,V6,B3,V7,A3,V8,B3,
                V9,A3,V10,B3,V11,A3,V12,B3,V13,A3,V14,B3,V15,A3,V16,B3
FINISH
```

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```
RUN NAME           CREATE LIST3.RAW
FILE NAME          LIST2
PAGESIZE           58
VARIABLE LIST      A1 TO A8,B1 TO B8,C1 TO C8,D1 TO D8,E1 TO E8,
                   F1 TO F8,G1 TO G8,H1 TO H8,I1 TO I8
INPUT FORMAT       FIXED (8(A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5/)
                   A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5)
INPUT MEDIUM       LIST2.RAW
N OF CASES         UNKNOWN
READ INPUT DATA
WRITE CASES        (26(A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5/)
                   A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5,1X,A5)
                   A1 TO I8,
                   A1 B2 C3 D4 E5 F6 G7 H8
                   A2 B3 C4 D5 E6 F7 G8 I1
                   A3 B4 C5 D6 E7 F8 H1 I2
                   A4 B5 C6 D7 E8 G1 H2 I3
                   A5 B6 C7 D8 F1 G2 H3 I4
                   A6 B7 C8 E1 F2 G3 H4 I5
                   A7 B8 D1 E2 F3 G4 H5 I6
                   A8 C1 D2 E3 F4 G5 H6 I7
                   B1 C2 D3 E4 F5 G6 H7 I8
                   A1 C8 D7 E6 F5 G4 H3 I2
                   A2 B1 D8 E7 F6 G5 H4 I3
                   A3 B2 C1 E8 F7 G6 H5 I4
                   A4 B3 C2 D1 F8 G7 H6 I5
                   A5 B4 C3 D2 E1 G8 H7 I6
                   A6 B5 C4 D3 E2 F1 H8 I7
                   A7 B6 C5 D4 E3 F2 G1 I8
                   A8 B7 C6 D5 E4 F3 G2 H1
                   B8 C7 D6 E5 F4 G3 H2 I1
FINISH
```

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```
RUN NAME          SORT LIST3 TO PRODUCE LIST4.RAW
ALLOCATE          TRANSPACE= 50000
FILE NAME         LIST3
PAGESIZE          58
VARIABLE LIST     V1 TO V16
INPUT FORMAT      FIXED (A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,
                  A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2)
INPUT MEDIUM      LIST3.RAW
N OF CASES        UNKNOWN
IF                (V1 EQ 'A1' OR  'A2' OR  'A3') X1=V1
IF                (V1 EQ 'B1' OR  'B2' OR  'B3') X2=V1
IF                (V1 EQ 'C1' OR  'C2' OR  'C3') X3=V1
IF                (V1 EQ 'D1' OR  'D2' OR  'D3') X4=V1
IF                (V1 EQ 'E1' OR  'E2' OR  'E3') X5=V1
IF                (V1 EQ 'F1' OR  'F2' OR  'F3') X6=V1
IF                (V1 EQ 'G1' OR  'G2' OR  'G3') X7=V1
IF                (V1 EQ 'H1' OR  'H2' OR  'H3') X8=V1
IF                (V1 EQ 'I1' OR  'I2' OR  'I3') X9=V1
IF                (V1 EQ 'J1' OR  'J2' OR  'J3') X10=V1
IF                (V1 EQ 'K1' OR  'K2' OR  'K3') X11=V1
IF                (V1 EQ 'L1' OR  'L2' OR  'L3') X12=V1
IF                (V1 EQ 'M1' OR  'M2' OR  'M3') X13=V1
IF                (V1 EQ 'N1' OR  'N2' OR  'N3') X14=V1
IF                (V1 EQ 'O1' OR  'O2' OR  'O3') X15=V1
IF                (V1 EQ 'P1' OR  'P2' OR  'P3') X16=V1

IF                (V2 EQ 'A1' OR  'A2' OR  'A3') X1=V2
IF                (V2 EQ 'B1' OR  'B2' OR  'B3') X2=V2
IF                (V2 EQ 'C1' OR  'C2' OR  'C3') X3=V2
IF                (V2 EQ 'D1' OR  'D2' OR  'D3') X4=V2
IF                (V2 EQ 'E1' OR  'E2' OR  'E3') X5=V2
IF                (V2 EQ 'F1' OR  'F2' OR  'F3') X6=V2
IF                (V2 EQ 'G1' OR  'G2' OR  'G3') X7=V2
IF                (V2 EQ 'H1' OR  'H2' OR  'H3') X8=V2
IF                (V2 EQ 'I1' OR  'I2' OR  'I3') X9=V2
IF                (V2 EQ 'J1' OR  'J2' OR  'J3') X10=V2
IF                (V2 EQ 'K1' OR  'K2' OR  'K3') X11=V2
IF                (V2 EQ 'L1' OR  'L2' OR  'L3') X12=V2
IF                (V2 EQ 'M1' OR  'M2' OR  'M3') X13=V2
IF                (V2 EQ 'N1' OR  'N2' OR  'N3') X14=V2
IF                (V2 EQ 'O1' OR  'O2' OR  'O3') X15=V2
IF                (V2 EQ 'P1' OR  'P2' OR  'P3') X15=V2

IF                (V3 EQ 'A1' OR  'A2' OR  'A3') X1=V3
IF                (V3 EQ 'B1' OR  'B2' OR  'B3') X2=V3
IF                (V3 EQ 'C1' OR  'C2' OR  'C3') X3=V3
IF                (V3 EQ 'D1' OR  'D2' OR  'D3') X4=V3
IF                (V3 EQ 'E1' OR  'E2' OR  'E3') X5=V3
IF                (V3 EQ 'F1' OR  'F2' OR  'F3') X6=V3
IF                (V3 EQ 'G1' OR  'G2' OR  'G3') X7=V3
IF                (V3 EQ 'H1' OR  'H2' OR  'H3') X8=V3
IF                (V3 EQ 'I1' OR  'I2' OR  'I3') X9=V3
IF                (V3 EQ 'J1' OR  'J2' OR  'J3') X10=V3
IF                (V3 EQ 'K1' OR  'K2' OR  'K3') X11=V3
IF                (V3 EQ 'L1' OR  'L2' OR  'L3') X12=V3
IF                (V3 EQ 'M1' OR  'M2' OR  'M3') X13=V3
IF                (V3 EQ 'N1' OR  'N2' OR  'N3') X14=V3
IF                (V3 EQ 'O1' OR  'O2' OR  'O3') X15=V3
IF                (V3 EQ 'P1' OR  'P2' OR  'P3') X16=V3
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```
IF                  (V4  EQ  'A1'  OR   'A2'  OR   'A3')  X1=V4
IF                  (V4  EQ  'B1'  OR   'B2'  OR   'B3')  X2=V4
IF                  (V4  EQ  'C1'  OR   'C2'  OR   'C3')  X3=V4
IF                  (V4  EQ  'D1'  OR   'D2'  OR   'D3')  X4=V4
IF                  (V4  EQ  'E1'  OR   'E2'  OR   'E3')  X5=V4
IF                  (V4  EQ  'F1'  OR   'F2'  OR   'F3')  X6=V4
IF                  (V4  EQ  'G1'  OR   'G2'  OR   'G3')  X7=V4
IF                  (V4  EQ  'H1'  OR   'H2'  OR   'H3')  X8=V4
IF                  (V4  EQ  'I1'  OR   'I2'  OR   'I3')  X9=V4
IF                  (V4  EQ  'J1'  OR   'J2'  OR   'J3')  X10=V4
IF                  (V4  EQ  'K1'  OR   'K2'  OR   'K3')  X11=V4
IF                  (V4  EQ  'L1'  OR   'L2'  OR   'L3')  X12=V4
IF                  (V4  EQ  'M1'  OR   'M2'  OR   'M3')  X13=V4
IF                  (V4  EQ  'N1'  OR   'N2'  OR   'N3')  X14=V4
IF                  (V4  EQ  'O1'  OR   'O2'  OR   'O3')  X15=V4
IF                  (V4  EQ  'P1'  OR   'P2'  OR   'P3')  X16=V4

IF                  (V5  EQ  'A1'  OR   'A2'  OR   'A3')  X1=V5
IF                  (V5  EQ  'B1'  OR   'B2'  OR   'B3')  X2=V5
IF                  (V5  EQ  'C1'  OR   'C2'  OR   'C3')  X3=V5
IF                  (V5  EQ  'D1'  OR   'D2'  OR   'D3')  X4=V5
IF                  (V5  EQ  'E1'  OR   'E2'  OR   'E3')  X5=V5
IF                  (V5  EQ  'F1'  OR   'F2'  OR   'F3')  X6=V5
IF                  (V5  EQ  'G1'  OR   'G2'  OR   'G3')  X7=V5
IF                  (V5  EQ  'H1'  OR   'H2'  OR   'H3')  X8=V5
IF                  (V5  EQ  'I1'  OR   'I2'  OR   'I3')  X9=V5
IF                  (V5  EQ  'J1'  OR   'J2'  OR   'J3')  X10=V5
IF                  (V5  EQ  'K1'  OR   'K2'  OR   'K3')  X11=V5
IF                  (V5  EQ  'L1'  OR   'L2'  OR   'L3')  X12=V5
IF                  (V5  EQ  'M1'  OR   'M2'  OR   'M3')  X13=V5
IF                  (V5  EQ  'N1'  OR   'N2'  OR   'N3')  X14=V5
IF                  (V5  EQ  'O1'  OR   'O2'  OR   'O3')  X15=V5
IF                  (V5  EQ  'P1'  OR   'P2'  OR   'P3')  X16=V5

IF                  (V6  EQ  'A1'  OR   'A2'  OR   'A3')  X1=V6
IF                  (V6  EQ  'B1'  OR   'B2'  OR   'B3')  X2=V6
IF                  (V6  EQ  'C1'  OR   'C2'  OR   'C3')  X3=V6
IF                  (V6  EQ  'D1'  OR   'D2'  OR   'D3')  X4=V6
IF                  (V6  EQ  'E1'  OR   'E2'  OR   'E3')  X5=V6
IF                  (V6  EQ  'F1'  OR   'F2'  OR   'F3')  X6=V6
IF                  (V6  EQ  'G1'  OR   'G2'  OR   'G3')  X7=V6
IF                  (V6  EQ  'H1'  OR   'H2'  OR   'H3')  X8=V6
IF                  (V6  EQ  'I1'  OR   'I2'  OR   'I3')  X9=V6
IF                  (V6  EQ  'J1'  OR   'J2'  OR   'J3')  X10=V6
IF                  (V6  EQ  'K1'  OR   'K2'  OR   'K3')  X11=V6
IF                  (V6  EQ  'L1'  OR   'L2'  OR   'L3')  X12=V6
IF                  (V6  EQ  'M1'  OR   'M2'  OR   'M3')  X13=V6
IF                  (V6  EQ  'N1'  OR   'N2'  OR   'N3')  X14=V6
IF                  (V6  EQ  'O1'  OR   'O2'  OR   'O3')  X15=V6
IF                  (V6  EQ  'P1'  OR   'P2'  OR   'P3')  X16=V6

IF                  (V7  EQ  'A1'  OR   'A2'  OR   'A3')  X1=V7
IF                  (V7  EQ  'B1'  OR   'B2'  OR   'B3')  X2=V7
IF                  (V7  EQ  'C1'  OR   'C2'  OR   'C3')  X3=V7
IF                  (V7  EQ  'D1'  OR   'D2'  OR   'D3')  X4=V7
IF                  (V7  EQ  'E1'  OR   'E2'  OR   'E3')  X5=V7
IF                  (V7  EQ  'F1'  OR   'F2'  OR   'F3')  X6=V7
IF                  (V7  EQ  'G1'  OR   'G2'  OR   'G3')  X7=V7
IF                  (V7  EQ  'H1'  OR   'H2'  OR   'H3')  X8=V7
IF                  (V7  EQ  'I1'  OR   'I2'  OR   'I3')  X9=V7
IF          (V7 EQ 'J1' OR  'J2' OR  'J3') X10=V7
IF          (V7 EQ 'K1' OR  'K2' OR  'K3') X11=V7
IF          (V7 EQ 'L1' OR  'L2' OR  'L3') X12=V7
IF          (V7 EQ 'M1' OR  'M2' OR  'M3') X13=V7
IF          (V7 EQ 'N1' OR  'N2' OR  'N3') X14=V7
IF          (V7 EQ 'O1' OR  'O2' OR  'O3') X15=V7
IF          (V7 EQ 'P1' OR  'P2' OR  'P3') X16=V7

IF          (V8 EQ 'A1' OR  'A2' OR  'A3') X1=V8
IF          (V8 EQ 'B1' OR  'B2' OR  'B3') X2=V8
IF          (V8 EQ 'C1' OR  'C2' OR  'C3') X3=V8
IF          (V8 EQ 'D1' OR  'D2' OR  'D3') X4=V8
IF          (V8 EQ 'E1' OR  'E2' OR  'E3') X5=V8
IF          (V8 EQ 'F1' OR  'F2' OR  'F3') X6=V8
IF          (V8 EQ 'G1' OR  'G2' OR  'G3') X7=V8
IF          (V8 EQ 'H1' OR  'H2' OR  'H3') X8=V8
IF          (V8 EQ 'I1' OR  'I2' OR  'I3') X9=V8
IF          (V8 EQ 'J1' OR  'J2' OR  'J3') X10=V8
IF          (V8 EQ 'K1' OR  'K2' OR  'K3') X11=V8
IF          (V8 EQ 'L1' OR  'L2' OR  'L3') X12=V8
IF          (V8 EQ 'M1' OR  'M2' OR  'M3') X13=V8
IF          (V8 EQ 'N1' OR  'N2' OR  'N3') X14=V8
IF          (V8 EQ 'O1' OR  'O2' OR  'O3') X15=V8
IF          (V8 EQ 'P1' OR  'P2' OR  'P3') X16=V8

IF          (V9 EQ 'A1' OR  'A2' OR  'A3') X1=V9
IF          (V9 EQ 'B1' OR  'B2' OR  'B3') X2=V9
IF          (V9 EQ 'C1' OR  'C2' OR  'C3') X3=V9
IF          (V9 EQ 'D1' OR  'D2' OR  'D3') X4=V9
IF          (V9 EQ 'E1' OR  'E2' OR  'E3') X5=V9
IF          (V9 EQ 'F1' OR  'F2' OR  'F3') X6=V9
IF          (V9 EQ 'G1' OR  'G2' OR  'G3') X7=V9
IF          (V9 EQ 'H1' OR  'H2' OR  'H3') X8=V9
IF          (V9 EQ 'I1' OR  'I2' OR  'I3') X9=V9
IF          (V9 EQ 'J1' OR  'J2' OR  'J3') X10=V9
IF          (V9 EQ 'K1' OR  'K2' OR  'K3') X11=V9
IF          (V9 EQ 'L1' OR  'L2' OR  'L3') X12=V9
IF          (V9 EQ 'M1' OR  'M2' OR  'M3') X13=V9
IF          (V9 EQ 'N1' OR  'N2' OR  'N3') X14=V9
IF          (V9 EQ 'O1' OR  'O2' OR  'O3') X15=V9
IF          (V9 EQ 'P1' OR  'P2' OR  'P3') X16=V9

IF          (V10 EQ 'A1' OR  'A2' OR  'A3') X1=V10
IF          (V10 EQ 'B1' OR  'B2' OR  'B3') X2=V10
IF          (V10 EQ 'C1' OR  'C2' OR  'C3') X3=V10
IF          (V10 EQ 'D1' OR  'D2' OR  'D3') X4=V10
IF          (V10 EQ 'E1' OR  'E2' OR  'E3') X5=V10
IF          (V10 EQ 'F1' OR  'F2' OR  'F3') X6=V10
IF          (V10 EQ 'G1' OR  'G2' OR  'G3') X7=V10
IF          (V10 EQ 'H1' OR  'H2' OR  'H3') X8=V10
IF          (V10 EQ 'I1' OR  'I2' OR  'I3') X9=V10
IF          (V10 EQ 'J1' OR  'J2' OR  'J3') X10=V10
IF          (V10 EQ 'K1' OR  'K2' OR  'K3') X11=V10
IF          (V10 EQ 'L1' OR  'L2' OR  'L3') X12=V10
IF          (V10 EQ 'M1' OR  'M2' OR  'M3') X13=V10
IF          (V10 EQ 'N1' OR  'N2' OR  'N3') X14=V10
IF          (V10 EQ 'O1' OR  'O2' OR  'O3') X15=V10
IF          (V10 EQ 'P1' OR  'P2' OR  'P3') X16=V10

IF          (V11 EQ 'A1' OR  'A2' OR  'A3') X1=V11
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```
IF            (V11 EQ 'B1' OR  'B2' OR  'B3') X2=V11
IF            (V11 EQ 'C1' OR  'C2' OR  'C3') X3=V11
IF            (V11 EQ 'D1' OR  'D2' OR  'D3') X4=V11
IF            (V11 EQ 'E1' OR  'E2' OR  'E3') X5=V11
IF            (V11 EQ 'F1' OR  'F2' OR  'F3') X6=V11
IF            (V11 EQ 'G1' OR  'G2' OR  'G3') X7=V11
IF            (V11 EQ 'H1' OR  'H2' OR  'H3') X8=V11
IF            (V11 EQ 'I1' OR  'I2' OR  'I3') X9=V11
IF            (V11 EQ 'J1' OR  'J2' OR  'J3') X10=V11
IF            (V11 EQ 'K1' OR  'K2' OR  'K3') X11=V11
IF            (V11 EQ 'L1' OR  'L2' OR  'L3') X12=V11
IF            (V11 EQ 'M1' OR  'M2' OR  'M3') X13=V11
IF            (V11 EQ 'N1' OR  'N2' OR  'N3') X14=V11
IF            (V11 EQ 'O1' OR  'O2' OR  'O3') X15=V11
IF            (V11 EQ 'P1' OR  'P2' OR  'P3') X16=V11

IF            (V12 EQ 'A1' OR  'A2' OR  'A3') X1=V12
IF            (V12 EQ 'B1' OR  'B2' OR  'B3') X2=V12
IF            (V12 EQ 'C1' OR  'C2' OR  'C3') X3=V12
IF            (V12 EQ 'D1' OR  'D2' OR  'D3') X4=V12
IF            (V12 EQ 'E1' OR  'E2' OR  'E3') X5=V12
IF            (V12 EQ 'F1' OR  'F2' OR  'F3') X6=V12
IF            (V12 EQ 'G1' OR  'G2' OR  'G3') X7=V12
IF            (V12 EQ 'H1' OR  'H2' OR  'H3') X8=V12
IF            (V12 EQ 'I1' OR  'I2' OR  'I3') X9=V12
IF            (V12 EQ 'J1' OR  'J2' OR  'J3') X10=V12
IF            (V12 EQ 'K1' OR  'K2' OR  'K3') X11=V12
IF            (V12 EQ 'L1' OR  'L2' OR  'L3') X12=V12
IF            (V12 EQ 'M1' OR  'M2' OR  'M3') X13=V12
IF            (V12 EQ 'N1' OR  'N2' OR  'N3') X14=V12
IF            (V12 EQ 'O1' OR  'O2' OR  'O3') X15=V12
IF            (V12 EQ 'P1' OR  'P2' OR  'P3') X16=V12

IF            (V13 EQ 'A1' OR  'A2' OR  'A3') X1=V13
IF            (V13 EQ 'B1' OR  'B2' OR  'B3') X2=V13
IF            (V13 EQ 'C1' OR  'C2' OR  'C3') X3=V13
IF            (V13 EQ 'D1' OR  'D2' OR  'D3') X4=V13
IF            (V13 EQ 'E1' OR  'E2' OR  'E3') X5=V13
IF            (V13 EQ 'F1' OR  'F2' OR  'F3') X6=V13
IF            (V13 EQ 'G1' OR  'G2' OR  'G3') X7=V13
IF            (V13 EQ 'H1' OR  'H2' OR  'H3') X8=V13
IF            (V13 EQ 'I1' OR  'I2' OR  'I3') X9=V13
IF            (V13 EQ 'J1' OR  'J2' OR  'J3') X10=V13
IF            (V13 EQ 'K1' OR  'K2' OR  'K3') X11=V13
IF            (V13 EQ 'L1' OR  'L2' OR  'L3') X12=V13
IF            (V13 EQ 'M1' OR  'M2' OR  'M3') X13=V13
IF            (V13 EQ 'N1' OR  'N2' OR  'N3') X14=V13
IF            (V13 EQ 'O1' OR  'O2' OR  'O3') X15=V13
IF            (V13 EQ 'P1' OR  'P2' OR  'P3') X16=V13

IF            (V14 EQ 'A1' OR  'A2' OR  'A3') X1=V14
IF            (V14 EQ 'B1' OR  'B2' OR  'B3') X2=V14
IF            (V14 EQ 'C1' OR  'C2' OR  'C3') X3=V14
IF            (V14 EQ 'D1' OR  'D2' OR  'D3') X4=V14
IF            (V14 EQ 'E1' OR  'E2' OR  'E3') X5=V14
IF            (V14 EQ 'F1' OR  'F2' OR  'F3') X6=V14
IF            (V14 EQ 'G1' OR  'G2' OR  'G3') X7=V14
IF            (V14 EQ 'H1' OR  'H2' OR  'H3') X8=V14
IF            (V14 EQ 'I1' OR  'I2' OR  'I3') X9=V14
IF            (V14 EQ 'J1' OR  'J2' OR  'J3') X10=V14
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```
IF              (V14 EQ 'K1' OR  'K2' OR  'K3') X11=V14
IF              (V14 EQ 'L1' OR  'L2' OR  'L3') X12=V14
IF              (V14 EQ 'M1' OR  'M2' OR  'M3') X13=V14
IF              (V14 EQ 'N1' OR  'N2' OR  'N3') X14=V14
IF              (V14 EQ 'O1' OR  'O2' OR  'O3') X15=V14
IF              (V14 EQ 'P1' OR  'P2' OR  'P3') X16=V14

IF              (V15 EQ 'A1' OR  'A2' OR  'A3') X1=V15
IF              (V15 EQ 'B1' OR  'B2' OR  'B3') X2=V15
IF              (V15 EQ 'C1' OR  'C2' OR  'C3') X3=V15
IF              (V15 EQ 'D1' OR  'D2' OR  'D3') X4=V15
IF              (V15 EQ 'E1' OR  'E2' OR  'E3') X5=V15
IF              (V15 EQ 'F1' OR  'F2' OR  'F3') X6=V15
IF              (V15 EQ 'G1' OR  'G2' OR  'G3') X7=V15
IF              (V15 EQ 'H1' OR  'H2' OR  'H3') X8=V15
IF              (V15 EQ 'I1' OR  'I2' OR  'I3') X9=V15
IF              (V15 EQ 'J1' OR  'J2' OR  'J3') X10=V15
IF              (V15 EQ 'K1' OR  'K2' OR  'K3') X11=V15
IF              (V15 EQ 'L1' OR  'L2' OR  'L3') X12=V15
IF              (V15 EQ 'M1' OR  'M2' OR  'M3') X13=V15
IF              (V15 EQ 'N1' OR  'N2' OR  'N3') X14=V15
IF              (V15 EQ 'O1' OR  'O2' OR  'O3') X15=V15
IF              (V15 EQ 'P1' OR  'P2' OR  'P3') X16=V15

IF              (V16 EQ 'A1' OR  'A2' OR  'A3') X1=V16
IF              (V16 EQ 'B1' OR  'B2' OR  'B3') X2=V16
IF              (V16 EQ 'C1' OR  'C2' OR  'C3') X3=V16
IF              (V16 EQ 'D1' OR  'D2' OR  'D3') X4=V16
IF              (V16 EQ 'E1' OR  'E2' OR  'E3') X5=V16
IF              (V16 EQ 'F1' OR  'F2' OR  'F3') X6=V16
IF              (V16 EQ 'G1' OR  'G2' OR  'G3') X7=V16
IF              (V16 EQ 'H1' OR  'H2' OR  'H3') X8=V16
IF              (V16 EQ 'I1' OR  'I2' OR  'I3') X9=V16
IF              (V16 EQ 'J1' OR  'J2' OR  'J3') X10=V16
IF              (V16 EQ 'K1' OR  'K2' OR  'K3') X11=V16
IF              (V16 EQ 'L1' OR  'L2' OR  'L3') X12=V16
IF              (V16 EQ 'M1' OR  'M2' OR  'M3') X13=V16
IF              (V16 EQ 'N1' OR  'N2' OR  'N3') X14=V16
IF              (V16 EQ 'O1' OR  'O2' OR  'O3') X15=V16
IF              (V16 EQ 'P1' OR  'P2' OR  'P3') X16=V16
PRINT FORMATS   X1 TO X16 (A)
READ INPUT DATA
WRITE CASES     (A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,
                A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2,1X,A2)
                X1 TO X16
FINISH
```

```
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I1  J1  K1  L1  M1  N1  O1  P1
A1  B1  C1  D1  E1  F1  G1  H1  I2  J2  K2  L2  M2  N2  O2  P2
A1  B1  C1  D1  E1  F1  G1  H1  I2  J2  K2  L2  M2  N2  O2  P2
A1  B1  C1  D1  E1  F1  G1  H1  I2  J2  K2  L2  M2  N2  O2  P2
A1  B1  C1  D1  E1  F1  G1  H1  I2  J2  K2  L2  M2  N2  O2  P2
A1  B1  C1  D1  E1  F1  G1  H1  I3  J3  K3  L3  M3  N3  O3  P3
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Appendix C

Superintendent's Letter

Dear Sir:

As part of a study funded by the Department of Education, Special Education Programs, Washington, D.C., I am investigating how placement decisions regarding hearing impaired students are made. In fulfillment of the doctoral degree requirements at Teachers College, Columbia University, I have chosen to study the decision making process by constructing simulated case studies and having field based personnel make placement decisions with regard to the information provided.

I would like to include members of the Committee on the Handicapped in your district in the study. The information that I am requesting and the tasks that I will ask your committee to complete will take approximately two hours of their time, one hour for individual tasks and one hour for group tasks, and can be done anywhere. All responses will be kept confidential, neither district nor subject names will be identified in any written or oral reports. The study will give you and your committee valuable feedback regarding parameters used in making placement decisions. As a result of the funding, I will be able to pay the subjects a token amount in appreciation of their time, effort and professionalism. Enclosed is a copy of the Statement of the Problem from the proposal so that you can get a better idea of the nature of the research.

If you agree to participate in the study, I will send you a questionnaire requesting certain demographic information regarding your district. I will then be in touch with you or your designee to determine how you would wish me to distribute the information to your committee members and to answer any questions that you or your designee may have regarding the study and its value to your district.

Thank you for considering this request. If you wish further information regarding the research, please feel free to contact me at (914) 832-6631.

Sincerely,

Beatrice Spear, M.S., M.Ed.

Director's Letter

Dear Sir:

As part of a study funded by the Department of Education, Special Education Programs, Washington, D.C., I am investigating how placement decisions regarding hearing impaired students are made. In fulfillment of the doctoral degree requirements at Teachers College, Columbia University, I have chosen to study the decision making process by constructing simulated case studies and having field based personnel make placement decisions with regard to the information provided.

I would like to include teachers of the hearing impaired, speech therapists and audiologists in your BOCES in the study. The information that I am requesting and the tasks that I will ask your staff to complete will take approximately one hour of their time, and can be done anywhere. All responses will be kept confidential, neither BOCES nor subject names will be identified in any written or oral reports. The study will give you and your staff valuable feedback regarding parameters used in making placement decisions. As a result of the funding, I will be able to pay the subjects a token amount in appreciation of their time, effort and professionalism. Enclosed is a copy of the Statement of the Problem from the proposal so that you can get a better idea of the nature of the research.

If you agree to participate in the study, I will send you a questionnaire requesting certain demographic information regarding your BOCES. I will then be in touch with you or your designee to determine how you wish me to distribute the information to your staff and to answer any questions that you or your designee may have regarding the study and its value to your BOCES. I am planning to collect data early in March.

Thank you for considering this request. If you wish further information regarding the research, please feel free to contact me at (914) 939-1750.

Sincerely,

Beatrice Spear, M.S., M.Ed.

COH Chairpersons Letter

Dear Sir:

As part of a study funded by the Department of Education, Special Education Programs, Washington, D.C., I am investigating how placement decisions regarding hearing impaired students are made. In fulfillment of the doctoral degree requirements at Teachers College, Columbia University, I have chosen to study the decision making process by constructing simulated case studies and having field based personnel make placement decisions with regard to the information provided.

The materials that I have prepared are not materials that will affect you in any way with regard to your present position or work. They will, however, be a source of feedback for you and for your committee members. Your Committee was chosen because you are within the area of interest to the study as well as within the geographical area of the study. The information collected should benefit you directly because of the intended feedback and should benefit those children with whom you work and/or whose placements you might affect.

In order to do this study, I will have four groups of placement officials and four groups of ancillary professionals in the area of deaf education, all of whom will individually complete similar simulated placement tasks. I will also ask the Committee on the Handicapped members to come together to debate one case study for placement. Fortunately, because of the federal funding, I will be able to provide you with a token payment in appreciation of your time, effort and professional standing.

If you and your committee agree to participate in the study, you will be asked to complete tasks that will take approximately two hours of your time, one hour for individual placements and one hour in the group. All of the information that I gather will be kept confidential and any reports, written or oral, that I present in connection with this study will observe your right to confidentiality; that is, your name will not be identified in any presentation of the results of the study. There are no known risks or discomforts involved and you are free to withdraw from the study at any time. I am more than willing to discuss these procedures or this project with you at any time.

As part of a profession that is ever increasing its ability to work more effectively with handicapped persons, I appreciate your willingness to participate in the study. I will be in touch with you shortly to ascertain if you do wish to participate and to send you materials for your Committee.

If you have any questions, please do not hesitate to contact me at (914) 937-3643 in the evening or at (914) 832-6631 from 8:00 A.M. to 4:00 P.M.

Sincerely,

Beatrice Spear, M.S., M.Ed.

Appendix D

Table 18

Crosstabulation of Placement Criteria Levels By Rating Group

Variable	Levels			Significance
	1	2	3	
Hearun	36.1[a]	32.2	31.7	.9973[b]
Hearaid	32.9	38.1	29.0	.9999
IQ	33.3	33.5	33.2	.9945
Selfcon	33.9	32.4	33.7	.9961
Academic	22.8	40.8	36.4	.9996
Motiv	31.8	35.2	33.0	.8541
Aural	26.9	37.9	35.2	.9470
Linguist	37.6	38.3	24.2	.9867
Social	33.7	34.1	32.2	.9584
Prnexp	35.0	33.4	31.6	.9954
Prnpref	33.3	36.5	30.2	.8841
Manual	32.9	35.7	31.4	1.0000
Speechin	33.8	33.8	32.4	1.0000
Othhand	33.3	33.1	33.6	.9339
Distance	34.2	33.7	32.1	.9947
Speechrd	33.6	35.5	30.9	.9989

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[a] Total percentages of distribution of levels across all groups.

[b] Significance refers to differences by level of distribution to rating groups. There were no significant difference.

Table 19

Variable List

	MEAN	STD DEV	LABEL
Placement	5.066	1.730	Recommended placement for student
Hearun	1.956	.823	Student's hearing loss--unaided
Hearaid	1.961	.786	Student's hearing loss--aided
IQ	1.999	.815	Student's IQ
Selfcon	1.999	.822	Student's self-concept
Academic	2.136	.757	Student's academic functioning
Motiv	2.001	.805	Student's motivation
Aural	2.083	.784	Student's aural functioning
Linguist	1.866	.774	Student's linguistic functioning
Social	1.985	.812	Student's social adjustment
Prntexp	1.967	.815	Parental experience
Prntpref	1.968	.797	Parental preference
Manual	1.985	.802	Student's manual communication ability
Speechin	1.986	.814	Student's speech intelligibility
Othhand	2.003	.818	Student's other handicaps
Distance	1.978	.814	Distance from placement
Speechrd	1.974	.804	Student's speech reading ability

Table 20

Zero Order Correlations

	PLACEMENT	HEARUN	HEARAID	IQ	SELFCON	ACADEMIC
Placement	1.000	.162	.183	.233	.097	.412
Hearun	.162	1.000	.073	.153	.153	-.004
Hearaid	.183	.073	1.000	.111	.109	.157
IQ	.233	.153	.111	1.000	.057	.113
Selfcon	.097	.153	.109	.057	1.000	-.000
Academic	.412	-.004	.157	.113	-.000	1.000
Motiv	.155	-.099	.115	.063	.091	.093
Aural	.202	.165	.054	.027	-.025	.239
Linguist	.227	.029	.121	.096	-.023	.151
Social	.147	-.035	.020	.052	-.037	-.001
Prntexp	.043	-.112	-.067	-.091	.084	-.058
Prntpref	.209	.011	.070	-.077	.044	.109
Manual	-.055	-.026	.021	.118	-.011	-.081
Speechin	.112	-.028	-.123	-.022	-.005	-.061
Othhand	.041	.002	.043	.030	.023	-.027
Distance	-.070	.042	.013	-.057	.036	.020
Speechrd	.172	-.060	-.076	-.053	.173	.101

Table 20

Zero Order Correlations (Cont.)

	MOTIV	AURAL	LINGUIST	SOCIAL	PRNTEXP	PRNTPREF
Placement	.155	.202	.227	.147	.043	.208
Hearun	-.099	.165	.029	-.035	-.112	.011
Hearaid	.115	.054	.121	.020	-.067	.070
IQ	.063	.027	.096	.052	-.091	-.077
Selfcon	.233	-.025	-.023	-.037	.084	.044
Academic	.091	.239	.151	-.001	-.058	.109
Motiv	1.000	.011	-.013	.003	.072	.061
Aural	.011	1.000	.028	-.007	-.052	.030
Linguist	-.013	.028	1.000	-.046	.071	.170
Social	.003	-.007	-.046	1.000	.124	.038
Prntexp	.072	-.052	.071	.124	1.000	-.091
Prntpref	.061	.030	.170	.038	-.091	1.000
Manual	-.028	-.039	-.174	-.166	-.024	-.036
Speechin	.074	.090	-.085	.109	.355	.058
Othhand	-.072	-.028	.045	.003	.031	-.087
Distance	-.035	-.059	-.017	-.093	.008	.024
Speechrd	.024	-.128	.136	.078	.218	.178

Table 20

Zero Order Correlations (Cont.)

	MANUAL	SPEECHIN	OTHHAND	DISTANCE	SPEECHRD
Placement	-.055	.112	.041	-.070	.172
Hearun	-.026	-.028	.002	-.042	-.060
Hearaid	.021	-.123	.043	.013	-.076
IQ	.118	-.022	.030	-.057	-.053
Selfcon	-.011	-.005	.023	.036	.173
Academic	-.081	-.061	-.027	.020	.101
Motiv	-.028	.074	-.072	-.035	.024
Aural	-.039	.090	-.028	-.059	-.128
Linguist	-.174	-.085	.045	-.017	.136
Social	-.166	.109	.003	-.093	.078
Prntexp	-.024	.355	.031	.008	.218
Prntpref	-.036	.058	-.087	.024	.178
Manual	1.000	.105	-.034	.093	-.090
Speechin	.105	1.000	.001	-.070	.106
Othhand	-.034	.001	1.000	-.105	-.048
Distance	.093	-.070	-.105	1.000	.048
Speechrd	-.090	.106	-.048	.048	1.000